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# Clinical Medicine and Surgery

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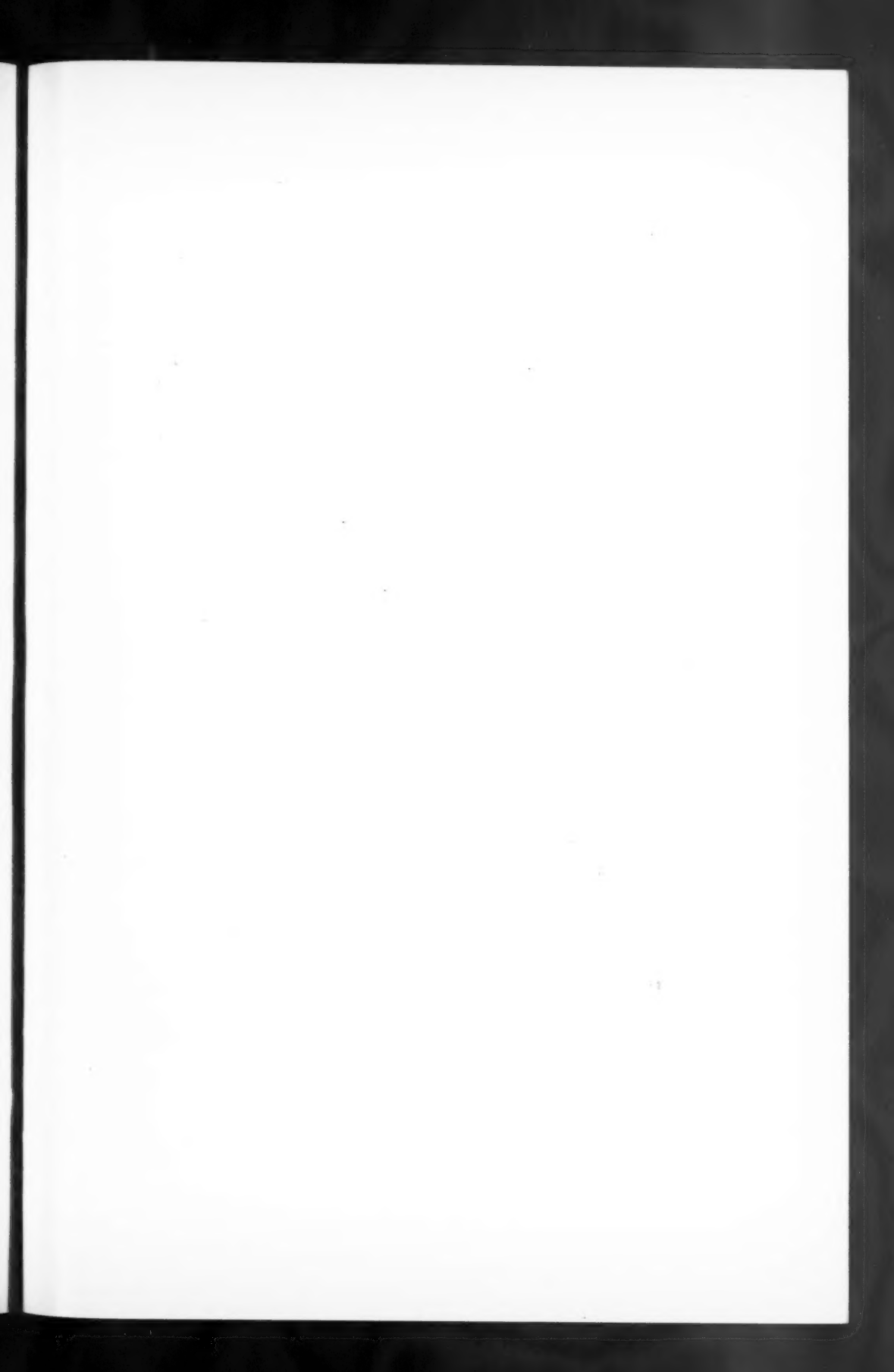
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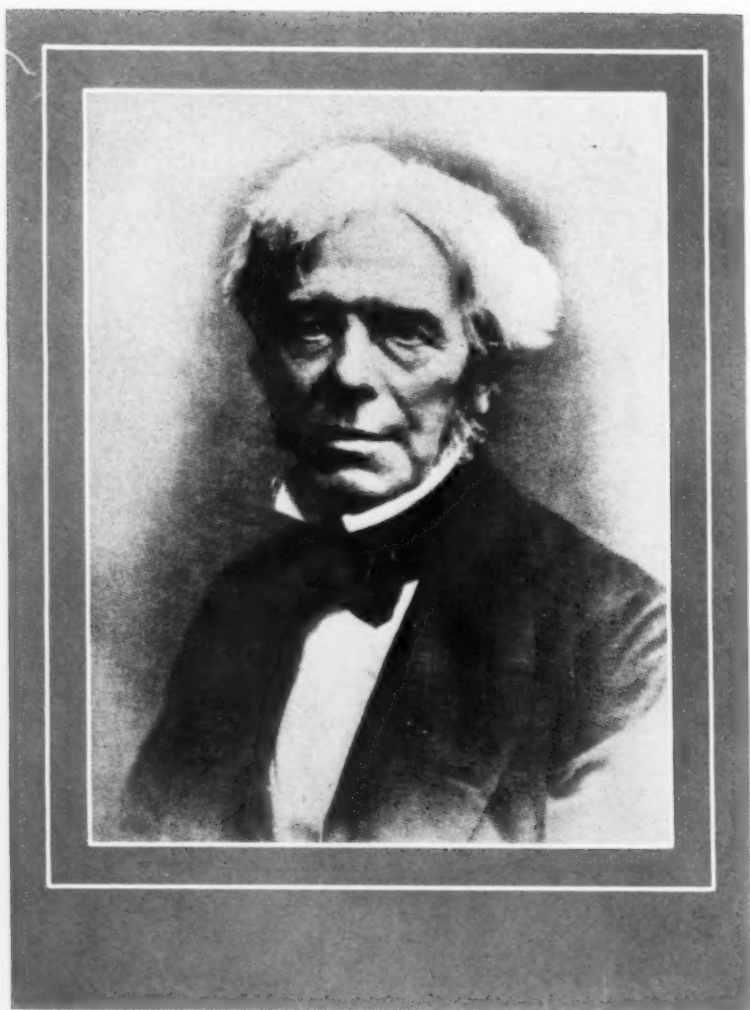


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MICHAEL FARADAY



# CLINICAL · MEDICINE AND · SURGERY

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## Faraday

THE story goes that someone once asked the famous English chemist, Sir Humphrey Davy, what he considered to be his greatest discovery. He replied, "Michael Faraday." And this was the reply of a man of keen vision and great soul, for this pupil became a greater chemist and physicist than his distinguished teacher.

That discovery must have been a bit like finding the traditional pearl in a swine's snout, for Faraday's father was a poor blacksmith and the boy was born, on September 22, 1791, in a shabby, suburban district of London, called Newington; moreover, the financial circumstances of the family were such that he had to begin earning his own living when he was only thirteen years old.

As often happens (so often in fact, that thoughtful people have given up attributing the circumstance to coincidence), the work which young Michael undertook had a profound influence upon his later life. He started in as errand boy for a bookseller and then learned the trade (or art) of bookbinding; and the things inside of the books he was handling seeped into his alert and inquiring mind and made it grow.

In his odd minutes, this strange boy, in-

stead of busying himself with cricket and other similar games, was rigging up contraptions and experiments to prove to himself the validity of the statements he found in the scientific books he was reading with such avidity. His first galvanic battery was made with half-pence and similar-sized discs of zinc, separated by bits of paper soaked in salt solution; and with this he succeeded in decomposing magnesium sulphate.

When Michael was about twenty, a customer of his employer became interested in him and took him to hear some lectures by Sir Humphrey Davy. The lad was fascinated; took notes; went home and amplified them in neat script; bound them into a book and sent them to the great chemist, who immediately gave Faraday a job washing bottles in his laboratory at the Royal Institution.

That did not last long, however, for Davy "discovered" him and made him his assistant and personal secretary, in which situation the young man drank in instruction as a thirsty flower drinks dew; and to such purpose that, a few years later (1816) he was lecturing to the students when Davy was ill or absent; in 1825 was made director of the laboratory; and, in

1833, was appointed Fullerman professor of chemistry.

While Faraday was a great chemist, having been one of the first to liquefy gases, and having produced several new types of steel and optical glass (among other things), it was in the field of physics, especially electricity, that he won worldwide fame. The major part of his epoch-making experiments and discoveries along this line were made in the decade between 1821 and 1831, and culminated in the discovery of electro-magnetic induction (announced on August 29, 1831), upon which most of the modern therapeutic and commercial uses of electricity are based. His published scientific papers, long and short, numbered 158.

During his earlier service at the Royal Institution, where he worked for fifty-four years, he lived over the laboratory, so that, if an idea occurred to him in the middle of the night, he could rush downstairs and test it, at once, by experiment. At this time his salary was about \$500 a year, and his official pay was never more than about \$2,000 annually. At one time he was earning about \$5,000 a year by doing commercial chemical analyses, as a side-line; but he found that this interfered with his research work and gave it up.

Faraday was a simple, genial, kindly man, very handsome in his earlier years, who, aside from his pursuit of the truths of science for *their own sake* (he was not a physician and had no therapeutic objects in view, as Galvani had), had but two interests in life: his family, to which he was devoted, and his church, the Sandemanian (similar to the Quakers), of which he was an Elder. He sought but one honor—Fellowship in the Royal Society—which came to him in 1834, but before his death, ninety-five titles and marks of merit had been bestowed upon him.

Gifted with exceptional powers of observation and of scientific imagination, Faraday never let these run away with him, but submitted every idea to the test

of rigid experiment before accepting it. When he set himself a problem, he followed it up with absolute concentration of thought and energy, until the solution was found. Though not a mathematician, he had the *feeling for quantities*, which is generally peculiar to the devotees of numbers.

In spite of his almost entire lack of formal education, Faraday developed into a powerful and highly popular teacher. His lectures were not merely full of strong meat, but were delivered with an elegance, dignity and almost prophetic quality which, with the experiments he used to illustrate them, held his hearers spellbound. Professor Tyndall said of him: "He plays like a magician with the Earth's magnetism. He sees the invisible lines along which its action is exerted. Sweeping his wand across these lines, he evokes this new power."

Unlike many men of lesser mold and fiber he saw the foolishness of trying to push on beyond his powers with labors which required keenness of brain and untiring energy, and so, as he had no hunger for wealth or fame, he gave up, without complaint or self-pity, the more arduous and spectacular parts of his work, as he felt the slackening of his mental and physical abilities which comes with age, and, supported by his pension of about \$1,500 a year, he spent his declining lustra in the comfortable house at Hampton Court, which the Queen had given him, as a mark of appreciation of the services he had rendered to the world. He passed to his rest and the reward which his faith had held steadily before him, on August 25, 1867.

On this, the hundredth anniversary of the year of Faraday's great discovery, it will be a profitable exercise to try to imagine what life would be like today if that discovery had not been made. And it is also pleasant, as we do honor to that great and illumined soul, to remember that the honors due him were not withheld by his own generation.

## PRESENTING SYMPTOMS

WHEN a patient walks into a doctor's office, he does so, as a rule (it will be different when health audits are more general), because something is troubling him—he has a pain, somewhere or everywhere, or suffers from dizziness, cough, some kind of an eruption or discharge, loss of strength or appetite or any other one or several of a thousand or more symptoms which give him the impression that all is not well with his department of the interior.

The point is, that a patient is unlikely (unless he is a hypochondriac) to tell the physician he consults that he has Bright's disease or hypothyroidism or a focus of infection or whatever. All he knows is that *some one particular discomfort* is interfering with his peace and happiness and that he *wants it removed*, NOW.

If the medical consultant opens the conversation by asking, "What is wrong with you?" he lays himself open to the timeworn retort, "That's what I want you to find out!"

One of the best ways to begin a medical consultation is to ask, "What was it that caused you to feel that you should see a physician?" And having asked that question, the doctor should sit back, with an alert eye, ear and nose and a note book at hand, to hear the whole story poured forth and observe and record what the patient says, how he says it and how he looks, sounds and smells while he is telling his tale. Brief, well-considered questions, at appropriate points in the narrative, will help to make the picture complete.

No physician who aspires to professional success can afford to skip the time required for this first consultation, to hurry the patient in his presentation of his troubles or to allow his attention to wander for an instant from the business in hand. If this first story is fully developed and noted, the diagnosis is at least half made,

in most cases and, if it is not complete, the line of further investigation is clearly indicated.

Having listened to the recital of all the features of the presenting symptom and brought its corollaries and concomitants out into the daylight, the next step is, of course, the complete physical examination and the decision as to what laboratory procedures, if any, will be needed to clear up uncertain points—no others should be asked for.

But if, after having done all these things at the first conference, the physician permits that patient to walk out of his office without *doing something* to ameliorate the presenting symptom, he may have performed his whole duty as a *scientist*, but he has failed as a *medical artist*—a clinician—for the sick man wants *help*, not a display of erudition.

The successful clinician must, therefore, burn midnight oil (or kilowatts) in acquainting himself with the many methods of relieving presenting symptoms of all descriptions, permanently if possible; temporarily (while he is working out the case) if need be—but of *relieving* them, in any case. Of course, he must be careful, in giving this surcease from discomfort, not to mask important symptoms nor interfere with the later treatment of the basic disorder.

It is here that the various resources of physical therapy play a very important part, for heat, light, electricity, vibration, massage and other similar measures, frequently have the power of restoring the patient's sense of euphoria, at least for the time, without in any way interfering with any subsequent diagnostic or therapeutic procedures which may be indicated.

The "word to the wise," then, is: Bring out the patient's presenting symptom at the first consultation; develop it; follow it up fully; make the most of it; and then *do something for it, before he leaves the*

office. Along this road lie clinical renown and the gratitude of men, women and little children; and, incidentally, the emoluments which come to the man who serves human beings, intelligently and with sympathetic understanding.

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No matter how long it takes to get the patient's point of view, it must be done, and having secured his confidence it is frequently possible, by advice alone, to lead him into other trends of thought by which he may get some benefit.—Dr. F. B. Moorehead.

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### BALLYHOOING THE VITAMINS

THE NEWSPAPERS and inexpensive popular magazines are now making possible the wide and rapid dissemination of information, on a scale never before approached in the world's history. One serious defect in this really splendid system is that misinformation receives equally wide and rapid distribution and, since few who read it have any basis upon which to estimate its value, is liable to do a good deal of harm.

When the existence of vitamins was first permitted to penetrate into the public prints, these chemical substances appealed to the imagination of the populace as being mysterious (which, in fact, they more or less are), and the idea was gobbled up with avidity, so that they usurped the place which had been held, for several years, by calories.

The ultraviolet rays were a strange force too—almost as much so as the x-rays, because both, though invisible, were proved to be immensely potent. People were (and many still are) prepared to believe almost anything about these two emanations and also those of radium.

When it was announced that the ultraviolet rays acted, to a considerable extent, upon the vitamin balance of the body, that made it unanimous, and the merry villagers were off, in full cry.

The manufacturers and purveyors of necessities—and, especially, of luxuries—rarely overlook an opportunity to capitalize a psychologic trend to their advantage, so the country was soon flooded with

rattletrap ultraviolet-ray machines, marketed through department stores or any other agency that could or would sell them, whose chief recommendation was that they were not sufficiently powerful to do anyone much harm. That inundation is now subsiding, as people are gaining a saner idea of the powers and dangers of these rays.

Just now, vitamins seem to be occupying the center of the stage and furnishing the nub of many spirited, if wholly unenlightening, conversations. Even (or, perhaps, especially) vitamin E is arousing much comment, in mixed company as well as in scientific circles (though the personal interest of most laymen is purely academic), and people are ingesting, in every practicable way, foods, drinks, chews, smokes and many other things which are alleged to contain these interesting chemical bodies.

Now, vitamins appear to be as necessary to human happiness, health and welfare as are food, water and sleep, and an ordinarily well-balanced diet furnishes enough of them to keep a man's biologic machinery in good running order. But because certain deficiency diseases were dramatically relieved or cured by specially-prepared substances, containing unusually large quantities of certain vitamins, the unthinking ones jumped to the conclusion that everybody needed a lot more of them than he had been getting. As was to be expected, many producers, of many kinds of things, undertook to supply that demand and are still doing so very assiduously, whether there is any sense or logic in their offerings or not.

In the hands of informed persons, the vitamins are an immense addition to our equipment for relieving or curing certain types of diseases and for building up and reinforcing the body's resistance to others; but they are not panaceas, and the untaught layman is generally wasting his money when he attempts to prescribe them for himself—though, fortunately, the dan-

gers (except financial ones) from overdosage appear to be rather remote.

One of the functions of this journal is to disseminate sound and reliable information regarding the health and physical welfare of human beings, and the vitamins and other things having to do with human nutrition are a part of this program. This knowledge should be passed on, in a dignified and practical manner, to any persons who are able to grasp it. In this way the air will be cleared rather rapidly and exploiters of the unwary will have to turn their talents in other directions.

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To infer judgment on the part of the masses would be a joke, if it were not a tragedy.—Dr. C. B. Burr.

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#### AN EXCUSE FOR LONGEVITY

MORE and more frequently we read in the papers about some citizen who has gained a certain distinction by living to be one hundred years old. Of course, ages like this are still a bit apocryphal, because accurate vital statistics are less than a century old, but there is little doubt that centenarians are less uncommon than they were a generation or two ago.

In reading these accounts, however, one is apt to be impressed by the fact that the only thing that most of these people have done to deserve public notice is to maintain some sort of residence in their corporeal domiciles for a period of ten decades. In cases like that, one wonders if it is worth while, except, of course, as a demonstration that it can be done. Extreme longevity should have some worthier excuse than this.

Osler's facetious remark regarding euthanasia for the man past sixty, which was taken up seriously and shouted forth by the press, so that its reverberations still echo, was not wholly devoid of food for careful thought. While it is true that many of the most valuable contributions to our modern life we owe to men who have passed the age of threescore, it is also true

that most of these contributions have been made by a very few exceptional individuals, while the general run of people of that age have passed, some time since, the constructive period of their lives and could, with profit to the world, be replaced by those whose youth gives promise of a greater store of physical energy to be applied to the solution of our problems.

This is not as it should be, nor is it necessary. A strong and active body is *not* more valuable than a strong and active mind. The trouble has been that few have seen fit to keep either their bodies or, especially, their minds in that desirable state; and, because conditions of physical heredity and environment have a tendency to keep the spark of life flickering within the frames of those who live beyond the age of fifty, there are many whose hearts are still beating, although they died as *men* (thinkers) a number of years ago.

The man who outlives himself is a pitiful object to contemplate. We see such, in the most exaggerated form, in patients in the advanced stages of paresis and other forms of dementia; but there are thousands of legally sane men and women of advanced years whose condition differs only in degree from the vegetable existence of the unfortunates in our institutions for the mentally diseased.

What a refreshing and heartening contrast is presented by Mr. Justice Holmes, of the United States Supreme Court, discharging the duties of that high office at the age of more than ninety years, or Edison or Dr. Welch or scores of others only less famous, and thousands whose keen thinking and vital enthusiasm are known only to a small circle of those who rejoice in the inspiring spectacle of a "green old age." Here is a valid excuse for longevity, and if one man or woman can do this, it is possible to all of us.

The secret of living until one dies is in this: As matters now stand, the physical body inevitably loses more or less of its power and elasticity with advancing years:

but the mind and the emotions, if kept active by constant exercise of a worthy nature, should be growing stronger and more fruitful with every added experience and should be added to the physical energy of the younger ones, to act as a balance-wheel and rudder to control and direct their activities.

He who would grow old gracefully and profitably must keep his heart and his brain alive and active; must not let the fires of imagination and loving, helpful enthusiasm die down; must keep his mind fully occupied with a variety of *creative* occupations; and must order his physical existence so as to keep his expenditures of energy within the limits of his reserves of that commodity.

The program is simple, but not easy, and, unless it is entered upon before the coming of "middle age," is impossible, in its fullness. Even after the age of fifty, however, the start may be made and much can be accomplished; but the earlier that start is made, the better, if a man would avoid the deplorable condition of outliving himself.

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The understanding of the Soul of Man, as a psychic and physical entity, will be the science of tomorrow.  
— Camille Flammarion.

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Mind is the first and most direct thing in our experience; all else is remote inference.—Arthur Stanley Eddington.

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### MORE HELP OFFERED

THE physicians who are recognizing the fact that one of their most useful and important functions is that of educating the public regarding the basic truths of preventive medicine and the powers and scope of the medical profession, deserve and, so far as we are concerned, will receive all the assistance which lies in our power to give them.

The little educational booklet, "Who's Your Health Banker?" which we announced in April, met with an enthusiastic response, and our readers have placed copies of it in the hands of more than 10,000 of their patients. Copies are still on hand for those who wish to avail themselves of this helpful service.

By the time this reaches our readers we expect to be ready to distribute the second of these pamphlets of information to the layman, whose title will be, "What About Heart Disease?" Other similar booklets will be prepared, from time to time, and offered to our readers as a help in doing a vital part of their jobs.

A post-card will bring any interested physician, dentist, pharmacist, nurse or social service worker a copy of this booklet and information as to the strictly nominal price at which they will be furnished for distribution. Send for yours today!

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### NOVEMBER (Cinquain)

Bitter  
Winds that bite; sleet  
And sudden squalls of rain;  
Warm sun and a frost — November  
Is here.

—G. B. L.



## LEADING · ARTICLES

### Treatment of Intestinal Amebiasis (Amebic Dysentery)

By Charles J. Drueck, M.D., Chicago

**A** DISCUSSION of the treatment of any contagious disease begins with a word of warning about the prevention and a consideration of the general prophylactic measures which, in the case of amebic dysentery, are similar to those used in typhoid fever and cholera, important factors of which are the selection of a pure water supply, rapid and complete disposal of fecal matter, protection of food from flies, treatment of carriers and precautions against handling of food by carriers.

The general management of acute cases and of all exacerbations is, in general, that of acute colitis from other causes, the important measures to support the patient during this loss of weight and strength being absolute rest in bed during the acute stage (two weeks), and an absorbable diet of high caloric value, composed of clear liquids the first week, together with milk and lime-water, whites of eggs, beef juice, milk toast and custard. The diet is intended to assist in maintaining the maximum possible amebicide concentration in the bowel.

#### DIET

Foods are to be bland, non-irritating and easily digested, and should leave a minimum amount of roughage to be eliminated in the feces. This, therefore, precludes the use of most green vegetables and fruits, as well as foods with indigestible residues of cereal origin, confections and malted liquors. Tea is almost always well tolerated in diarrhea, but coffee is not always so well borne. Fluids and soft articles of food are used by choice. Where solids are used they should generally be well comminuted in preparation. The proteins are usually best kept, fatty foods are excluded, in gen-

eral, and milk is often of great value, boiled milk being especially well absorbed by most people, probably because of the finer state of the curd and as a result of more complete gastric digestion. Eggs, scraped meats, broths and gruels are also used. The irritating effect of concentrated carbohydrate foods—sugars and starches—is a matter of common clinical observation, but bland articles may be cautiously introduced into the diet later, macaroni, spaghetti, rice and noodles being examples.

While, in the acute cases, digestive rest (which is practically starvation) is certainly good for a few days, it is obvious that this cannot go on in the later stages, in which an extreme degree of emaciation may be found. High caloric intake, with minimal bulk and residue, is greatly needed, and the disadvantages of inflexible routine and the use of stereotyped diet lists is clearly seen. By cautious experimentation, it will be found that certain articles are well borne where least expected and will serve a most useful nutritive purpose. This extends particularly to the use of fats.

The use of diet in amebic dysentery must be thought of in the light of a palliative measure to produce the minimum of irritation, together with the maximum of nutrition, and in no way as a substitute for effective specific therapy.

In the later stages of the disease, the tendency to dehydration demands a liberal amount of fluids. The associated severe loss of blood in the feces induces a high grade of anemia and the use of liver is very valuable. Care is needed for many months after apparent cure and the stools should be kept soft, if necessary with the aid of mineral oil.

## SAMPLE DIET

	Protein Gms.	Calories
Breakfast, 6 A.M.		
1 tablespoonful oatmeal .....	3.5	75
1 egg .....	6.5	80
1 slice bread (small).....	3.5	100
1 cup coffee with milk.....	2.0	45
A lump of sugar.....	—	25
A small square of butter.....	—	100
Mid morning, 9 A.M.		
1 glass milk .....	7.0	150
Dinner, 12 noon		
1 cup soup .....		
1 chop, small slice of meat, fowl or fish $2\frac{1}{2} \times 4\frac{1}{2} \times \frac{1}{4}$ " .....	25.0	200
1 medium potato .....	4.0	150
2 tablespoonfuls vegetables; choice of turnips, toma- toes, squash, spinach, caul- iflower, carrots, cabbage, beets, beans .....	2.0	50
1 cup cocoa (milk with 1 tablespoonful cocoa pow- der) .....	9.0	200
Mid afternoon, 3 P.M.		
1 glass grape juice.....		120
Supper, 6 P.M.		
2 eggs .....	13.0	160
1 glass milk .....	7.0	150
1 slice bread .....	3.5	100
1 small square butter.....	—	100
Totals .....	86.0	1805

## MEDICATION

The administration of calomel,  $\frac{1}{4}$  grain (16 mgm.) every half hour for 8 doses, followed by a saline purge, to clear the bowels at the beginning of treatment, is of advantage, although, thereafter, bismuth subnitrate in large doses, and even opiates, may be necessary at times to control the evacuations.

The resistance and rebelliousness of the endameba to treatment has caused physicians much concern and their attack embodies three distinct plans of procedure:

1.—The amebas embedded in the mucosa of the bowel are reached by the circulating fluids of the body by means of intramuscular injections of emetine hydrochloride or intravenous injections of arsphenamine or neocarsphenamine.

2.—The amebas that are free in the intestinal tract may be in the food material, scybala or mucus, and are not reached by the circulating fluids of the body. Their destruction, therefore, must depend on an amebicidal agent passing down through the intestinal tract and coming into contact with them. They are a menace from the standpoint of continued infection for, if it were possible to destroy every organism reached by the blood, the patient would be

subject to prompt reinfection. For these, the oral administration of ipecac, emetine-bismuth-iodide, or acetarsone (the latter an organic arsenical compound) usually relieves the symptoms of acute endamebiasis promptly; but the extermination of the parasite is such a difficult problem that it is not infrequently the custom to combat the acute exacerbations without making further attempts to rid the patient of the organism.

A few days' treatment with ipecacuanha and its derivatives produces excellent results in acute cases, but the eradication of the parasites, the prevention of recurrences and the overcoming of individual intolerance to certain forms of treatment constitute a baffling triad, and any hesitation, on the part of either physician or patient, paves the way for a relapse.

3.—Intestinal ulcers are a great source of trouble, even after the organisms have been destroyed, as are ulcers from any other cause. The healing of these is effected by the reparative processes of nature, aided by medication by mouth, by enemas of quinine hydrochloride, kerosene, *chappara amargoso*, and by a careful diet.

## ATTACKING THE AMEBAS THROUGH THE BLOOD STREAM

Ipecacuanha, in large doses, has long been used as a specific remedy, but it is only since 1912, when Rogers<sup>1</sup> employed the alkaloid emetine hypodermically, that the value of the drug has been definitely established. Emetine hydrochloride is usually employed, in 1 grain (0.065 Gm.) doses and is preferably given intramuscularly. The solution kept in sterile ampules seems to give a minimum of unfavorable reactions and probably should be employed exclusively. Some clinicians prefer to give a half-grain (32 mgm.) dose twice daily, but there is usually some local reaction, and it is obviously undesirable to subject the patient to the inconvenience and discomfort of several daily injections of fractional amounts, when one daily injection of a full dose meets the requirements well.

Another factor to be considered is that the drug does not remain active in the circulation for any great length of time and, if the desire is to produce a sterilizing effect, as far as the amebas are concerned, better results are naturally obtained by a large dose. The same principle applies in the treatment of other conditions. For example, in syphilis it is customary to give



large doses of an arsphenamine at infrequent intervals, in preference to small doses frequently repeated.

The most favorable site for the injection is usually the deltoid muscle. In the case of women who wish to wear sleeveless dresses, the drug may be injected into the gluteal region or elsewhere, as indicated. There is often considerable local reaction and, if the injection is placed subcutaneously, there may be an area of discoloration. One writer has suggested that the injections be given in the back so that, if they produce unsightly areas, the patient will not be annoyed by seeing them. The intramuscular injection causes a certain amount of discomfort that may persist for two or three days, but is not sufficient to be disabling, and discoloration of the skin does not develop.

This 1-grain-a-day dose of emetine hydrochloride is continued for 14 days. If colic or severe diarrhea supervenes, it may be checked by opium; bismuth subnitrate, even in massive doses, has not been satisfactory. Once each 7 days the bowels should be cleansed by a saline purge, and during the treatment the patient should remain in bed. Bensaude et al.<sup>2</sup> have suggested giving emetine intravenously, but so far as I know no one has ever tried it, the procedure being attended by considerable risk. After 14 consecutive doses the emetine should be interrupted because, according to Low<sup>3</sup>, the patient with chronic amebic diarrhea, who takes emetine in small doses for a long time, becomes "emetine-fast," a condition comparable to that occurring in the treatment of syphilis with arsenic.

Arsphenamine and neoarsphenamine have been suggested by Milan<sup>4</sup>, who observed a cure of amebiasis while administering antisyphilitic treatment. Brown<sup>5</sup> reports 10 out of 11 cases, in which other treatment has been unavailing, and in which arsphenamine finally eliminated the endameba. Gunn<sup>6</sup> also reports good results with this combined treatment.

My practice is: Three days after the last dose of emetine has been given intramuscularly (on the 17th day), a dose of 0.3 Gm. of arsphenamine or 0.6 Gm. of neoarsphenamine is given intravenously, and this is repeated at weekly intervals for 6 doses.

#### ATTACKING THE AMEBAS FREE IN THE INTESTINAL TRACT

Under the influence of emetine, the en-

damebas are converted from the histolytica stage to the less active tetragena stage. Emetine, though of great value in the acute and subacute stages and in relapses of the disease, cannot be relied upon for the complete eradication of the infection. Recourse must now be had to powdered ipecac, given in full dosage and at regular intervals. The reason for the superiority of ipecac in the latent stage lies probably in the fact that it takes time for the alkaloids to be extracted from the powder. There is a greater degree of concentration and local action in the intestine, and less of the undesirable systemic effects.

The powdered ipecac is best administered in 5-grain (0.3 Gm.), salol-coated pills. Ten of these pills (50 grains—3.3 Gm.) should be administered at bed time, not less than three hours after food, and the patient should be urged to go to sleep as promptly as possible afterward. While the ipecac pills are being given, the patient is given a soft diet during the day, up to 1:00 P.M., after which time nothing but simple liquids, such as water, tea, coffee, bouillon and ginger ale, are given. To prevent vomiting, 5 grains (0.3 Gm.) of sodium barbital or 15 minims (1 cc.) of tincture of opium may be given, half an hour before the ipecac.

The full course of treatment requires the retention of at least 100 pills, equivalent to 30 Gm. of the powdered root. As only those pills that disintegrate become active, the stools should be examined for pills that are passed, and these, of course, must be subtracted in calculating the total dose. If too great a proportion of pills is passed in the stool, the coating should be pierced with a sharp needle, which is likely to expedite disintegration.

#### IPECAC PILLS

Ipecac pills may be purchased from the large manufacturing pharmaceutical houses, but I prefer to have freshly-prepared pills made by the local druggists. Many agents are used for coating the pills, so that they will pass through the stomach unchanged and be dissolved only in the intestinal tract. I prefer a coating of phenyl salicylate (salol), which agent probably has some therapeutic value. The average amount of phenyl salicylate required to coat one pill is about 4 grains (0.26 Gm.).

The physical character of the pills is of the greatest importance. If the coating is too thick, the pills may pass entirely

through the intestinal tract without the coating having been sufficiently dissolved for the intestinal fluid to come into contact with the ipecac, in which case they are, of course, entirely valueless. It is not an unknown occurrence for the full dosage of pills to pass through apparently as given. If the coating is too thin, the phenyl salicylate may dissolve in the stomach sufficiently to permit the gastric juice to gain access to the ipecac, in which case intense nausea develops and the contents of the stomach are vomited. Not only is the medication of no benefit in this instance, but there is often considerable difficulty in having the patient take or retain the pills afterward, because of the psychic impression that has been made.

One of my patients took ten thinly-coated ipecac pills at 10:00 P.M. She vomited her stomach contents at 10:30 o'clock, vomited one pill at 11 o'clock, and continued to bring up the pills, one at a time, until 4 o'clock in the morning. You may imagine her prostrate condition the next day.

If the coating is uneven, but sufficiently thick for the pills to pass through the stomach safely, the phenyl salicylate may be removed from the thin spots, as it dissolves in the intestinal tract, before it is removed elsewhere, and the ipecac content will dissolve, leaving a hard, thin shell of phenyl salicylate to act as an irritant, particularly if it breaks up with ragged edges. It sometimes happens that these shells cause violent intestinal activity in passing through, the ejected material having the appearance of the shells of birds' eggs.

Some patients experience considerable difficulty in swallowing the required number of pills or in retaining them. This may be due to one or more of several causes: The pills are large, particularly those coated with phenyl salicylate, and more especially those made by the local pharmacist. Not only are the pills large, but the coating of the home-made pills is rough. Nausea may be caused by the mere mechanical inconvenience of swallowing a number of these large bodies. It is possible that the pills may act as a foreign body in the stomach and be rejected, as would any other foreign material that is hard, rough and heavy.

There is often a psychic inhibition that is hard to overcome. This particularly obtains when the patient knows that he is taking ipecac. If one has had the misfortune to be nauseated once by this treatment, it

is sometimes almost impossible to overcome the impression that has been made.

For the relief of these difficulties, I have found suggestion of great value. If the patient can be made to understand that thousands of persons have taken the treatment without any material discomfort and that, in all probability, he will have no difficulty, except the mechanical one of getting the pills into the stomach, a large part of the battle will have been won.

Additional medication may sometimes be necessary for two reasons: (1) to allay nausea and favor comfort and sleep, so that the ipecac will not be vomited; and (2) to lessen the intestinal activity sufficiently to permit the pills to remain in the testinal tract long enough for the coating to be removed and the ipecac dissolved.

For nausea, the bromides usually meet all the requirements. From 30 to 60 grains (2 to 4 Gm.) may be given, about two hours before the time for taking the pills.

If intestinal hyperactivity is a factor, opium in some form is used. From 10 to 20 minims (0.6 to 1.2 cc.) of the tincture usually suffices. The opium and bromides may be given at the same time. The pills are best given at the usual sleeping time of the patient, for the reason that there is then less tendency for him to experience inconvenience.

The custom of many has been to give ten or more pills at each dose, for several days, and then gradually to reduce the number of pills at each dose until one or two are taken daily for a considerable period of time. I believe that it is more desirable to give the full dose each time the treatment is used, and, as the patient improves, instead of reducing the number of pills, to lengthen the intervals between doses. There are several advantages to this plan:

- 1.—It is best to give the pills when the digestive tract is as nearly empty as possible. The intensive preparation of the patient for each dose of the ipecac cannot be carried out indefinitely, as the necessity of keeping up nutrition must be considered. When full doses are given at long intervals, the nutrition can be arranged without inconvenience.

- 2.—The plan suggested admits of days of full diet and only occasional intervals of restriction in this respect.

- 3.—Should it be necessary to give bromides or opiates to enable the patient to handle the treatment, this cannot be con-

tinued each night indefinitely, but can be used occasionally.

4.—It is probably more desirable to give an occasional thorough treatment than frequently to repeat ineffectual attempts.

Both emetine and powdered ipecac sometimes prove ineffectual in extremely acute and extremely chronic cases of amebiasis. In such cases, as well as in carriers, emetine-bismuth iodide, although it has the ipecac tendency to produce vomiting and diarrhea, is often of service.

#### EMETINE-BISMUTH IODIDE

Emetine-bismuth iodide was introduced by A. G. DuMez<sup>7</sup> in 1910. It varies considerably in composition, according to its preparation. The sample analyzed by DuMez contained about 29 percent of emetine. The compound is insoluble in water and dilute acids, but is decomposed by alkalis. On the basis of these solubility characters, DuMez, in 1910, suggested that it should pass the stomach unchanged and thus have a lesser tendency to produce vomiting and diarrhea, but that it would presumably be decomposed and absorbed in the alkaline intestines.

DuMez did not have any clinical trials made and his suggestion was neglected, until it was revived, in 1916 by Dale, who took up the subject because of the unsatisfactory results from the hypodermic emetine treatment in chronic cases and in carriers of amebic dysentery. He assumed that the intestinal amebas at least might be reached more directly by oral administration than by the circulation. He therefore prompted the clinical trial of the DuMez compound, with promising results.

**Administration:** Dale<sup>8</sup> employed a dosage of 3 grains (0.2 Gm.) of emetine-bismuth iodide (corresponding to about 1 grain of emetine), daily for 12 days. This dosage has been followed by subsequent observers. Dale gave the daily quatum at a single dose, during or after a full meal. Some of the others have given it in divided doses, and at different times. Apparently the midday meal is best, since the after-effects then cause the least inconvenience.

Dale also suggested a keratin-coated pill. As the coating of the pills with keratin is now generally recognized to be of little value as a means of preventing their disintegration by the gastric juice (Reports, Coun. Pharm. & Chem., 1911, p. 58), salol-coated pills or capsules should be tried and also the wax mass proposed by N. S.

Davis (J.A.M.A., Oct. 14, 1916, p. 1160) and the procedure of Ballenger and Eller (J.A.M.A., Jan. 17, 1914, p. 197).

**Efficiency:** All the clinical observers report satisfactory results. The disappearance of amebas from the stools is generally complete and apparently permanent, even in chronic cases, carriers, and patients in whose cases the hypodermic injections had failed. The compilation of Waddell and his co-workers<sup>9</sup> is most comprehensive. It shows about 18 percent of failures in carriers. This may be considered an excellent showing. The method, in acute cases also, is at least equal to the hypodermic administration of emetine hydrochloride.

**Side-actions:** The statements in regard to side actions vary somewhat, as might be expected. It is clear, however, that the preparation is far from non-irritant and produces much more gastrointestinal disturbance than does the hypodermic method. Waddell et al. report that practically all patients respond, either by purging or vomiting or both, the two phenomena being generally of inverse severity.

Low and Dobell state, "Some of these (symptoms) recall to one's memory the old ipecacuanha days," although the symptoms are generally not quite so severe. Unfortunately, there are no published records of parallel observations on the severity of these symptoms, comparing the plain ipecac treatment, by Simon's method for instance, with the emetine-bismuth compound and with the absorption preparation (Alkresta Ipecac).

Waddell et al. state that the vomiting starts in about one hour; the diarrhea in three hours. They can be checked only by opiates. Practically no tolerance is acquired. The vomitus generally has the red color of the drug, showing that the keratin coating dissolved in the stomach. Evidently this confers but little protection. The severity of the nausea and vomiting varies considerably in different patients. This variation is not to be accounted for by variations in the drug, for this was of the same origin in most of the series. Presumably the variable reaction of the stomach may be an important factor in gastric solution and local irritation by the drug. However, it must be remembered that the emesis is largely of central origin, as shown by Eggleston and Hatcher, in 1915, and, therefore, could not be avoided by any method that would permit the absorption of the

emetine. Evidently, the side-effects of the drug are still very undesirable, although they do not preclude its use and are less disagreeable than with the method of oral administration.

Another ipecac preparation is the proprietary "Alcresta" tablets, said to be "composed of the ipecac alkaloids absorbed by hydrated aluminum silicate. This absorption compound carries the alkaloids, inactive and unchanged, through the acid contents of the stomach and liberates them in the intestinal tract. Effective doses of ipecac may thus be administered orally without causing vomiting or nausea. Each tablet is equivalent to 10 grains of U.S.P. ipecac." I have had no experience with this preparation.

At the end of 14 days of consecutive ipecac treatment, this drug and all of its alkaloids should be discontinued because, if the treatment be continued too long, an ipecac diarrhea may be substituted for the amebic dysentery. This is not altogether a disadvantage, except in patients who are greatly prostrated, as the free bowel movements sweep the cysts and other organisms out of the intestinal tract.

#### ACETARSONE

Recently, good results, in both acute and chronic amebiasis, have been reported from the oral administration of acetarsonate (stovarsol), a pentavalent arsenical compound of relatively low toxicity. The usual dose is 0.25 Gm. three times daily, with meals. The tablet is chewed with the food. This dosage is maintained for 7 days, then omitted for 7 days and the course repeated.

Marchoux<sup>10</sup> presented an article on this subject. Johns and Jamison<sup>11</sup> report three patients who, having suffered recurrences, were so benefited by their original two courses of acetarsonate that they purchased the drug and kept it on hand. One man took more than seventy tablets, at the rate of from four to six a day, without apparent injury to himself, and, as he persisted with the drug, the endamebas likewise became indifferent to it. This re-emphasizes the value of interrupted treatment in preventing the organisms from becoming emetine-fast or arsenic-fast.

The amount of arsenic given in one course of acetarsonate (4.5 Gm.) is about 1.4 Gm. This is a much larger amount than the patient receives with arsphenamine or neoarsphenamine, which is given over a period of from four to five weeks. Two

other organic arsenical compounds Treparsol<sup>12</sup> and Acetylarsan<sup>14</sup> have been recommended, but I have not used them.

#### TREATMENT OF THE INTESTINAL ULCERS

All medication given by irrigation of the bowels or enemas is of value and is frequently efficacious in chronic cases, but, since the endameba's habitat is the interstices of the mucosa and the submucosa, it is probable that a cure by this method is not possible. Colonic flushings should be done once a day, by means of a fountain syringe and a long rectal tube, with the patient in the knee-chest position or on his back with his hips well elevated. The best solution for the purpose is one of quinine bisulphate (1 to 1,000) or one of silver nitrate of equal strength. From 1 to 2 liters should be allowed to enter slowly, and the enema should be retained, if possible, for ten or fifteen minutes. If the rectum is very irritable, a half dram (2 cc.) of 4-percent solution of cocaine may be instilled first. Yatren<sup>13</sup> (iodo-oxybenzenepyridin sulphate), a German synthetic product, has been used, but it is very expensive. These colonic irrigations are given daily for one week and once a week thereafter for three months.

In intractable cases, recourse may be had to appendicostomy, cecostomy or ileostomy, to facilitate through-and-through lavage, and, in the case of the last two operations, to secure rest of the colon.

Once complete destruction of the organisms has been secured by a course of specific treatment, intestinal irrigation, with mild astringent solutions, may favor healing. These irrigations should not, however, be used during the ipecac course, because they interfere with the retention of the drug in the large bowel.

After the stools are ameba-free, a distressing diarrhea sometimes continues. Bismuth subnitrate, in doses of a heaping teaspoonful every three or four hours, for a week or two, or until the stools become thoroughly formed, is a very useful after-treatment.

The tendency of the disease to relapse during the first two or three weeks after treatment is so well known that, wherever possible, the patient should be kept under observation for several months after apparent cure, and an examination of the stools made at definite intervals. Subjective relief is rapidly obtained, but to insure the entire destruction of the endameba is another

matter. The very nature of *Endameba histolytica* is against this, as the situation of the parasite, in the intestinal mucosa, affords protection.

The question of reinfection, rather than recurrence, cannot be overlooked. Treatment seems to favor encystment and the cysts are far more resistant to treatment than are the active endamebas. In some cases, emetine, given at intervals during a month, seems to retard encystment, as well as to destroy the parasite as it passes from the cyst stage.

Many cases of "chronic appendicitis" are cured by antiamebic treatment. The endameba, like constipation, may cause right-sided pain, and operation may be avoided when such a cause is recognized.

#### SUMMARY

There is no one plan of treatment that will apply in all cases. Here, as elsewhere in medicine, it is necessary to individualize; but the routine treatment here suggested has seemed to meet the requirements in so large a percentage of cases that it may be suggested as a working basis, changing it as indicated by some special condition.

1.—The patient is given a calomel and saline purge, put to bed and given an absorbable diet.

2.—Emetine is given every day and, if the patient is in average physical condition, ipecac pills are administered. If he is prostrate, the ipecac is withheld a few days until he is rested.

3.—In the third week, colonic irrigations are given daily, and after another week the bowel is flushed once a week for two months.

4.—Beginning in the third week, neoarsphenamine is given weekly.

5.—Stool examinations are made for amebas each week for three months. If the disease recurs, it usually is within two to four weeks.

6.—Should a relapse occur, emetine-bismuth iodide or acetarsone is used, instead of the ipecac pills.

7.—If an idiosyncrasy is found to quinine, other amebicides are substituted in the colonic flushings.

8.—If the patient is debilitated, a week's rest in bed, with a carefully selected diet of moderately high caloric value, fortifies him. The emetine hydrochloride treatment, during this week and before medication by mouth is employed will usually produce symptomatic relief, and often the patient

does not experience any further discomfort.

9.—The condition of the patient following treatment calls for comment. Though he may be relieved of his intestinal parasites, he frequently still has colitis, requiring careful dietetic treatment, and his general condition, instead of being better, is often worse, immediately following his specific medication.

All patients leaving the hospital receive diet lists and careful instructions as to the care of the bowels later. The neurasthenic habit of years is not easily broken, and the problem confronting the physician is frequently identical with that found in the sufferer from mucous or nonspecific colitis. The few patients I have been able to keep in bed and under the dietetic and physical regimen for treatment of the asthenic state, have made most progress toward recovery; but treatment of colitis by ordinary dietetic means is futile, if it is caused primarily by *E. histolytica*. The amebas must be gotten rid of first.

The toxic effect on the patient of all amebicides must be constantly kept in mind.

Ipecac and its alkaloid, emetine, produce local irritation and nausea and vomiting, by central and local action. All mucous membranes are irritated, sometimes to an exaggerated degree. It may, therefore, produce conjunctivitis, bronchitis, skin eruptions, asthma, diarrhea, and rectal irritation. Toxic neuritis, occurring particularly in the arms and legs, may require three months to recover. With the hypodermic administration of ipecac alkaloids, there may be weakening of the heart muscle, with a fall of the blood pressure. Death may occur by central paralysis.

The patient taking acetarsone, because of its close relationship to the arsphenamine group, must be watched for gastrointestinal disturbance, toxic erythema and exfoliative dermatitis. Brown noted acute upper respiratory infection, occurring one or two days previous to the onset of the erythema, in four of his cases.

#### REFERENCES

- 1.—Rogers: The rapid cure of amoebic dysentery and hepatitis by hypodermic injections of soluble salts of emetine. *Brit. M. J.* 1:1424, June 22, 1912.
- 2.—Bensaude, R., Cain, A. and Rachet, J.: Les injections intraveineuses de chlorhydrate d'emetin dans le traitement de la dysenterie amebienne. *Bull. et mém. Soc. méd. d. hôp. de Paris* 48:662, May 9, 1924.
- 3.—Low, G. C.: Emetine-bismuth iodide in amoebic dysentery, amoebic hepatitis and general amebiasis. *Lancet* 1:482, Mar. 30, 1917.
- 4.—Milan, quoted by Ravaut, P. and Krolunitsky, G.: Le traitement mixte de la dysenterie amebienne. *Paris méd.* 7:18, Jan. 6, 1917.



- 5.—Brown, P. W.: The nature, incidence and treatment of endamebiasis. *J.A.M.A.* 86:457, Feb. 13, 1926.
- 6.—Gunn, H.: Amebiasis: Its radical cure with combined emetin and salvarsan products. *California State J. Med.* 16:240, May, 1918.
- 7.—Dumes, A. G.: Two compounds of emetin which may be of service in the treatment of endamebiasis. *Philippine J. Sc.* B 10:73, 1915.
- 8.—Dale, H. H.: Treatment of carriers of amoebic dysentery. *Lancet* (Lond.) 2:183, July 29, 1916; *J. Roy. Med. C.* 27: p. 241.
- 9.—Waddell, W., et. al: The treatment of 102 carriers of amoebic dysentery with emetine-bismuth iodide. *Lancet* 2:73, July 21, 1917.
- 10.—Marchoux, E.: Action du stovarsol. *Paris méd.* 14:421, Nov. 22, 1924.
- 11.—Johns, F. M. and Jamison, S. C.: The treatment of amebiasis by oral administration of stovarsol. *J.A.M.A.* 84:1913, June 20, 1925.
- 12.—Menk, W.: Weitere Erfahrungen über die Beeinflussung infectiöser Darmkrankheiten durch "Ytren" mit besonderer Berücksichtigung der chronischen Amebenruhr. *München. med. Wchnschr.* 69: 1280, 1282; 1922.
- 13.—Fladin C.: Treparsol in treatment of amebiasis. *Bull. et mém. Soc. méd. d. hôp. de Paris* 48: 1628-36, 1924.
- 14.—Garin, O. and Lepine, P. R.: Two new arsenical compounds against amebiasis, stovarsol and acetylarsen. "Proc. Internat. Conf. on Health Problems in Tropical America," 1924, pp. 300-16.

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## Secondary Agranulocytosis

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**A**GRANULOCYTOSIS is a symptom, which we observe almost exclusively in severe cases of septic infections. This symptom consists in a paradoxical reaction of the organism to an infection with streptococci or staphylococci, characterized by a decrease instead of an increase in the number of the granulocytes (polymorphonucleated leukocytes). The granulocytes almost disappear from the blood.

There are two different types of agranulocytosis. In one type we have a decrease of the white-cell count, down to 10 or even 5 percent of the normal number; in the other type we observe a moderate decrease of the white-cell count, to about 50 percent of the normal. In this last-mentioned type, we observe a replacement of the granulocytes by other cells, such as monocytes or lymphocytes. There is no difference in the clinical symptoms of the two types.

We always deal with cases of sepsis, high fever, tonsillitis or *angina necrotisans*, and a subicteric tinge of the skin. Death usually occurs within a short time (one to two weeks). The disease, or better the symptom complex, was described by Max Schultz, in 1922, and numerous cases have been reported since. For a review of the literature up to 1930, see Bock and Wiede<sup>1</sup>.

The etiology of the agranulocytosis is unknown. The only fact which we know is a deficiency in the regeneration of the

granulocytes. The following case of secondary agranulocytosis may be of special interest in this regard, because it explains one, at least, of the possible causes which lead to a complete exhaustion of the reproduction of granulocytes.

### CASE REPORTS

A young man, age 18 years, entered the hospital\* in a very bad condition. The history, as far as available, revealed that the patient had been sick for six days and that the disease had started with a sore throat. He had a septic fever.

**Physical examination:** The lymph glands beneath the mandible were enlarged; a systolic murmur was present; the heart was within the normal limits; the lower lobe of the right lung was consolidated; there was edema and inflammation of the right forearm.

**Laboratory findings:** A smear from the throat, as well as the blood culture, revealed a streptococcal infection; the urine sediment contained granular casts; the tests for syphilis were negative. The most surprising finding was the blood count: Erythrocytes, 3,020,000; hemoglobin, 60 percent; leukocytes, 3,900, with only 5 percent of granulocytes and 52 percent monocytes, 43 percent lymphocytes. The patient died the following day.

**Autopsy (abbreviated):** Body of a tall, white male of the dolichomorphic type; the lips and conjunctivae are anemic; a scar on the right side of the chin points to a previous incision; the right forearm is swollen, inflamed and edematous, but no pus empties at incision (myositis). There are enlarged lymph glands in the right submaxillary region and many enlarged glands around the trachea. There are also thick packets of lymph glands around the hiluses of both lungs, some of which have a diameter of one inch. No adhesions; no evidences of a tuberculosis of the lungs could be stated. The right lower lobe is engorged. There are three to four ounces

1.—Bock and Wiede: Ueber Agranulocytose, Aleukie, Amyelhaemie u.s. Haemocytotoxikosen. *Folia Haematologica*, 42, 7, 1930.

\*St. Elizabeth Hospital, Chicago. Attending physicians: Dr. Milton, Dr. Flynn.

of fluid present in the pericardial sac and a roughening of the mitral valve, with a red thrombus adherent, is present. The liver is of double size (3,000 Gm.) and shows evidences of parenchymatous degeneration. The spleen is very friable and enlarged—500 Gm. (normal 170 Gm.). Many of the mesenteric lymph glands are enlarged. The other organs are normal.

The microscopic examination of the lymph glands shows caseation and typical tubercle formation, with numerous giant cells of the Langhans type. There are no microscopic evidences of tuberculosis in the lungs or in other organs.

*Diagnosis and cause of death:* General sepsis, in an advanced stage of tuberculosis of the lymph glands.

#### DISCUSSION

The blood picture and the post mortem findings are sufficient to reconstruct the previous history of the illness of this young man. The patient evidently contracted a mild tuberculosis of the submaxillary lymph-glands during his childhood (scar). The tuberculosis was limited to the lymph-glands, because the patient was rich in lymphatic tissue. We know, according to Barthel, F. Kraus and others, that subjects, who are rich in lymphatic tissues tend rather to tuberculosis of the lymph glands than to tuberculosis of the lungs.

The richness in lymphatic tissue, usually called "status lymphaticus", may better be explained by the term "lymphoglandular infantilism". The lymphatic condition of a normal individual persists in children much longer than does the thymus gland. According to Brugsch, we still have a marked normal lymphocytosis up to the fourteenth year. The following tabulation gives the average of the percentage of the different types of leukocytes for different stages:

Age	Granulocytes	Lymphocytes
1 to 3 years.....	40%	60%
10 to 14 years.....	50%	50%
20 to 40 years.....	70%	30%
60 to 80 years.....	80 to 90%	20 to 10%

The tuberculosis of the patient, although evidently mild, caused an intense reaction of the lymph glands of the submaxillary region, the peribronchial and also the mesenteric glands. This abnormal reaction was due to the infantile constitution of the patient, who had also other symptoms of infantilism, such as the dolichomorphic type of his body\*.

There is a certain period in the development of the human body, during which

the extremities and the vertebral column grow rapidly, under the influence of certain hormones (pituitary gland). This period is followed by a gradual increase of the body weight, in the adult. An excess of the longitudinal growth, especially of the growth of the limbs, is an infantile condition and has to be valued as the persistence of an endocrine stimulus of an earlier period. It has, therefore, a significance similar to that of the persistence of the thymus gland or of the lymphatic constitution. The persistence of the thymus gland represents the earliest stage; then follows the lymphoglandular infantilism; and the last juvenile period is represented by the influence of the pituitary gland upon the longitudinal growth. The body of this youth had the characteristics of the second and third period (lymphatic infantilism and pituitarism.)

It may be that the tuberculosis had some influence on the retardation of the normal development of this patient. We know that tubercle bacilli stimulate the lymphatic tissue, due to their waxy substance. Lymphocytes contain a strong lipolytic ferment, which not only acts upon the lipoids of the bacteria, but also upon the lipoids of the host. The production of granulocytes, on the other hand, depends upon the presence of lipoids, as they contain eight times the amount of lecithin found in the red blood corpuscles, which are among the cells richest in lecithin—granulocytes (pus cells), 14.4 percent of lecithin; erythrocytes, 1.867 percent of lecithin.

The agranulocytosis was, therefore, in this case, caused by the previous tuberculosis and lymphatic hyperplasia.

#### SUMMARY

A case is reported in which the clinical symptom of agranulocytosis, caused by a septic infection with streptococci, could be traced back to a lymphadenosis, associated with, or caused by, tuberculosis, limited to the lymph glands.

A retardation of the development after puberty, characterized by a disproportion between the height and weight of the body (dolichomorphism), could be stated as a symptom of infantilism equivalent to the lymphatic infantilism of the individual.

A biologic explanation for the exhaustion of the reproductive power of the bone marrow may be seen in the destruction of the lipoids by the lipolytic ferments of the lymphocytes.

\*Disproportion between height and weight, in favour to the height. See Pende, "Le Debolezze di Costituzione" (Constitutional Inadequacies). Rome, 1927.

# Is Asthma an Alkalosis?

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**I**N THE *Journal of Allergy* for September, 1930, Dr. Beckmann gave reasons for considering allergy as a special type of alkalosis. In this he is supported by others (Bray, McDowell). Tiefensee<sup>1</sup>, especially, after one hundred examinations in forty asthmatics, finds that, at the beginning of the attack, the blood reaction is normal and the alkaline reserve at the upper level of normal, and that, as the attack progresses, these values shift to the alkaline side, and he concludes that there is an alkalotic disturbance of the acid-base equilibrium and that the alkalosis is a condition precedent to the attack. By lowering the alkali reserve by a fasting day or acid-producing diet, he could cut short or prevent spasm; by giving inhalation of five to eight percent carbon dioxide, he could end it.

In the second edition of my book on asthma<sup>2</sup>, I gave reasons for thinking that, in asthma, there is an acidotic tendency, a view shared by A. J. D. Cameron<sup>3</sup>, of Northampton, after extensive analyses; also by Oriel<sup>4</sup> and by the Mont Dore school and others.

For the past eighteen months I have had further research carried out, first by Dr. Marjorie Gillespie, and latterly by Miss Jean Small, B.Sc., the later analyses having been made especially in view of the contrary opinion I have mentioned.

As the asthmatic patient often has long periods free of asthma, and often unexpectedly has an attack, or has marked periodicity—nocturnal, week-end, menstrual—it is obviously essential to correlate biochemistry with the clinical state. Such correlation is difficult, because residence in a hospital is almost essential and asthmatics often become promptly free from attacks in a hospital, and also because the attack so often occurs at the awkward hours of two to four A.M.

With children there are two further difficulties: (1) For them, hospital residence is rarely necessary, for close on 100 percent of asthmatics under fifteen are curable by simple, non-specific treatment at home, provided they are not mouth-breathers and have no deformity of the chest and limbs; (2) repeated venous puncture, in the same

child, is often difficult and it is not easy to get frequent samples of blood.

It may be that, in children, the biochemistry study does not yield the same picture as in adults; to this there will be reference later.

## EVIDENCES OF ACIDOSIS

In adults, however, three lines of figures converge to the idea that, in them, there is acidosis at the time of the attack and just before: (1) There is a lowered alkali reserve (van Slyke) at the time of attack, when the CO<sub>2</sub> tension is increased, as evidenced by dyspnea and lividity, and the reserve rises when the attack passes off; (2) the chlorides shift to the corpuscles; (3) there is an increase of total acid in the urine, with increase of ammonia-combined acid. The latter often persists for some time after the spasm has ceased. As Oriel<sup>5</sup> says, it lags.

It is difficult, if not impossible, to see how the combination of these three things can be explained away as alkalosis. (By acidotic tendency is meant that the organism has, in these adults, an unusual battle against acid products to maintain its normal pH. It is not intended here to discuss what these may be or how they are produced.)

1.—That there is a lowered alkali reserve is shown by the following facts:

The average reserve (van Slyke), in 12 attacks in 7 patients, was 46.7 (the normal limits being 53 to 70); whereas in 14 patients when free of asthma, the average was 59.

It will be noted that the rise and fall of the eosinophile count are, roughly, in inverse ratio to those of the alkali reserve and in direct ratio to those of the asthma. In none, out of 46 cases investigated, has there been an increase of the alkali reserve beyond normal; in most it was low; in all of 16 adult asthmatics recently investigated while wheezing, the reserve has been below normal; in the few asthmatic children examined, the reserve has never been below normal, but tends rather toward the low side (they were not wheezing when blood was taken).

Cameron (Northampton) found the al-



## SAMPLE CASES

Patient	Age	Date	State	A.R.	Eosinophiles %
H. J.	21	11-12-30	Free .....	58	4
		12-23-30	Distinct asthma .....	42	13
		12-24-30	Do .....	45	7
		1-8-31	Free for 2 weeks.....	70	4
D. G.	17	12-8-30	Free for weeks.....	52.5	5
		12-13-30	Wheezing .....	46	11
Mrs. L.	60	12-6-30	{ Asthma almost daily	41.7	8
		12-17-30		40	5
		12-31-30		37.6	5
Mrs. K.	45	12-24-30	Severe asthma for several days..	50	8
		1-5-31	Clear for 2 weeks after detoxication. ....	67	5

kali reserve lowered in every case and regards the asthmatic condition as an acidosis, in the sense above mentioned.

2.—The sodium chloride in whole blood is normally 450 to 475 mgm. per 100 cc. In asthmatics it is decreased. In an average of 8 asthmatics, when temporarily *free of wheeze* it was 388.5; in an average of four asthmatics, *while wheezing*, it was 416.7 (i.e., somewhat higher, but still much below normal); in an average of two asthmatics, *after detoxication*, it was 488. In an aspirin-sensitive patient, who never has asthma except when given aspirin, the figure before two grains was 475, and one hour after it, 455.

The figures for the NaCl content of the corpuscles, as against that in plasma, show, with one exception, that it is considerably increased. In that exception there was no asthma at the time of observation, though the patient had asthma every night. With the hematocrit it was found that, in asthma, the plasma is decreased, in relation to the corpuscles, and that the corpuscular content of chlorine was higher than normal—chloride shift. Pickering states that, in anaphylaxis also, the plasma is decreased, relatively to the corpuscles.

3.—About the increase of acidity of the urine in asthma there is no doubt, and the increase of ammonia-combined acid is often remarkable, especially just after the attack

has passed.

In the first case mentioned above, the ratio of ammonia-combined acid to free acid was about normal (1.5:1 or even 2:1), during a period of a fortnight free of asthma. It fell during a slight attack to 0.85:1. Then, on January 8, with the beginning of a severe attack, it rose to 3:1. She had repeated large doses of adrenalin. On the 10th, when she was becoming easier, the ratio rose to 5:1, and on the 11th to 7:1. At this time the urine was alkaline to litmus, yet deposited urates. On the 13th and 14th, when she was still wheezy but much less dyspneic, the ratio was 18:1 and the urine was loaded with urates. On the 19th, when she felt very well, the ratio had fallen to 2.8:1. On the 23rd to 24th, when she had a severe attack, the eosinophile count was 13 percent, the alkali reserve 42 and the urinary ratio was still 2.8:1; but on the 24th, the eosinophile count being 7 percent and the alkali reserve 45, the urine gave ammonia-acid to the free acid, 6.6:1 and deposited urates. On the three following days, when she was free of wheeze, it averaged 3:1. The lag in the ammonia output is quite marked in this case. It is as if the process by which urea is converted to ammonia took time to start but, momentum once gained, took time to die down.

Much might be added, from a long series

of blood and urine analyses, in confirmation of the idea of an acidosis in asthma, but space forbids.

While I have never seen anything to corroborate the idea that the asthmatic attack is associated with an alkalosis, I must emphasize the fact that my figures relate mostly to adults. In the few cases of children I have been able to examine, there has never been a lowering of alkali reserve below normal limit, even with a distinct eosinophilia. In them, however, there has not been actual asthma. The vigor of a growing child's biochemical reaction might account for this.

#### ASTHMA AND TETANY

It is only fair to state that the clinical histories show that laryngismus—which I have called asthma of the larynx—frequently precedes ordinary asthma.

Now laryngismus, carpopedal spasm and facial irritability form the triad of tetany, and tetany is said to be an alkalosis. This, however, seems to be still disputed. Here again, accurate correlation with the clinical state is essential. In a child of ten months, who seemed to have persistent laryngismus, there was distinct alkalosis (reserve 79), yet with an eosinophile count of 6 percent. Tracheotomy was necessary, and the child died ten days later, of sepsis. Post mortem, it was clear that the child had not had laryngismus, but double abductor paralysis, due to fibrosis of the thymus involving the recurrent nerves. This case shows the need for caution and raises the question whether enlarged thymus and laryngismus may not be correlated.

Neither in asthma nor in tetany is the question of acidosis or alkalosis the primary one. In tetany there is calcium deficiency; in asthma toxicosis (usually); and probably the problem has to be carried back to the parathyroids and the adrenals, respectively.

#### EOSINOPHILIA

It may be well to refer to eosinophilia. The role of the eosinophile is still discussed. That it is related to foreign protein or to protein-split products, is generally accepted\*. Observation at Stobhill seemed to show a relationship to amino-acid excess.

The eosinophile affinity indicates that the granules are basic. This might be interpreted in two ways: Acidosisists might regard the

eosinophiles as soldiers, provided with basic ammunition to counteract acidosis; alkalosisists would regard them as scavengers and the basic granules as basic refuse.

One remarkable fact results from our observations, the speed with which the blood picture changes, in response to certain stimuli. The speedy response of red cells to CO<sub>2</sub> or O<sub>2</sub> is an elementary fact, but that of the white cells to other stimuli is also striking and less known. Fifteen (15) Gm. of urea, given to an asthmatic free of spasm, produced, in one patient, status asthmaticus for thirty-six hours, with a rise of eosinophiles, in two hours, from 15 to 22 percent. Urea was then tried on 23 cases. In 18, an increase in both percentage and total number of eosinophiles was found. The average percentage (fasting) was 9.1 and, two hours after urea, 12.6; average total numbers, before and after, 438 and 611 per cmm., the total leukocytes being, 4,512 and 4,849, respectively (i.e., over the whole 23 cases).

In 2 of the 5 showing no increase, there was no asthma while in hospital, but the neutrophile polymorphs contained excess of eosinophile granules. In normal persons urea had no such effect. On the other hand, adrenalin was found to decrease the eosinophile count in a few minutes; e.g., 10 percent before and 4 percent fifteen minutes after injection of 5 minims (0.33 cc.) of adrenalin (1:1000); 8 percent before and 4 percent after; 56 percent before and 43 percent after. Also the alkali reserve tends to rise with the decrease in eosinophiles.

Moreover, the effect of a cold douche after a warm bath, a measure which stimulates adrenalin flow (Cramer<sup>6</sup>), produces, more slowly, similar results on the eosinophiles and increases the basophiles. In one case, the eosinophiles before a hot bath were 68 percent, basophiles, none; one hour after a cold douche, 46 and 1 percent. A hot bath tends to increase the eosinophiles. The significance of these facts will be discussed elsewhere; they are stated here for their bearing on the acidosis question, and to show the speed of chemical reaction, not only in the red, but also in the white cells of the blood, and therefore to emphasize the need for intimate correlation of biochemical findings with the clinical state.

#### ASTHMA AND ALLERGY

In only 50 percent of asthmatics is allergy proved. Oriel<sup>11</sup> gives the figure of 42 percent; my own is about 35 percent. Al-

\*Corniolet & Kotzareff's experiments prove this very definitely, in connection with traumatism. (*Rev. de Chirurgie*, 1921, LIX, p. 233).

lergy, therefore, is probably rather a concomitant than a cause of asthma, toxicosis being a favorable soil basal to both. With detoxication, asthma, eosinophilia and allergic symptoms tend to disappear and the alkali reserve to rise.

In asthma there is defective action of both the adrenals and the liver. Through toxicosis, the liver is missing fire; in diabetes it is spurting—pancreatic inhibition to glycogenic function is lacking, because of damage to the islets. It is not primarily a question of acidosis or alkalosis.

That judicious fasting helps asthma and that many asthmatics got rid of their asthma during the War and found it return on their return to the softer conditions of civil life, is beyond question. That this improvement was due to acidosis is another matter. It must always be remembered that life involves the production of acid metabolites in an alkaline medium. The more thorough the catabolism, the more thorough the elimination; the less thorough the catabolism, the greater is the tendency to the accumulation of acid; the greater the excess of fuel intake over the body's needs or capacity to burn it, the greater the tendency to acidosis.

If we overtax the liver, pancreas and adrenal, they will respond for a time, then degrade, and we may expect the results to vary according to the individual's inherited or modified biochemistry, and so get asthma in one patient, glycosuria in another and kidney trouble in a third. In our complex civilized life, people tend to eat more than they can efficiently burn, and acid products tend to accumulate. In the War there was, not only absence of excess intake, but there was more outdoor exercise, with more efficient metabolism and elimination.

Normally, in pregnancy, metabolism is at its acme and, especially if the endocrines are efficient, asthma disappears. Otherwise asthma is worse. Large doses of alkali sometimes then help (Alex. Glen, of Glasgow). The difficulty of inducing anaphylaxis experimentally in pregnant animals is of great significance here.

Sometimes a sea voyage improves asthma. It will do this through the absence of dust, especially of pollen in cases of "inhalant" asthma; also when it improves the general metabolism. But often a sea trip is a bad measure for asthmatics, because of the overeating and lack of exercise. The first

attack of asthma in one of my hay-fever patients was on a voyage. An asthmatic I sent on a sea-trip was so wheezy that I have never sent another. Vomiting helps asthmatics by detoxicating them. Salter used emetics regularly for his patients.

In the young, cyclical vomiting, ketosis and asthma are apt to intercur; alkalies have often been found beneficial in the first two; in asthma, Oriel regularly gives aromatic spirits of ammonia, a diffusible alkali and an ease to kidneys working at high pressure to convert urea into ammonia.

As shown, the alkali reserve is usually low, at least in adult asthmatics. Hypochlorhydria, when present, is the result of toxicosis and the accompanying vagotonia. All ferment action in the body is depressed by the toxicosis and adrenal strain. Clinically I have occasionally found defective salivary ferment action and reduction of the sulphocyanide content of the saliva; also I have found that, after detoxication, the hypochlorhydria often gives place to normal juice, together with a rise in the alkali reserve.

I have never found the chlorides a bit of use in asthma; but if calcium is combined, not only with lactic acid, but with soda (calcium-sodium lactate), and therefore given in alkaline form, I have found it of distinct use in some cases of asthma (hypopietics), and in all cases of paroxysmal rhinorrhea in which I have tried it. Gluconate of calcium is also effective.

Aspirin (acetylsalicylic acid) is poison to some asthmatics; I have known it to cause asthma in patients who never previously had bronchospasm; I have known less than a grain cause unconsciousness. Two grains made a nurse ill, who never has asthma unless after aspirin, and caused a slight fall in her alkali reserve. This poisonous effect looks as if it were due to the "last straw"—the effect of a rather crude acid on an organism already struggling to maintain its normal pH.

Aspirin certainly does often relieve bronchospasm, but is this because it counteracts an alkalosis for which I have never found proof? How does aspirin relieve headache? Prof. Snapper<sup>9</sup> says that salicylates reduce the sedimentation rate of the blood, by their influence on the stability and lability of the plasma proteins.

Much more could be said but space forbids. I wish to emphasize:

1.—That, though I have searched for

alkalosis in asthmatics, I have never found any evidence of it, and usually have found the alkali reserve below, often much below, the normal.

2.—That the question of acidosis versus alkalosis is not the primary one, which is one of toxicosis and adrenal defect.

3.—That both adrenalectomy and anaphylaxis have been shown to be accompanied by an abrupt fall of the alkali reserve and a shift of the pH to the acid side. Adrenal insufficiency is proved in asthma, by the help that the injection of adrenalin gives and by post-mortem examinations which I have recorded. The resemblance of anaphylaxis in guinea-pigs to asthma in man is well known.

3.—Lastly, it may be remarked that,

after thirty years' clinical experience, in 1,300 cases, I have found it wise to forbid oatmeal to asthmatics. Irvine H. Page<sup>10</sup> states that oats produce a strongly acid ash and lower the alkali reserve.

#### REFERENCES

- 1.—Tiefensee: *Med. Klin.*, 1929, XXXIX, p. 1628.
- 2.—Adam: "Asthma and Its Radical Treatment" (C. V. Mosby Co., 1926).
- 3.—Cameron: *Med. J. & Rec.*, 1929, p. 526, and personal communication.
- 4.—Oriol: *Guy's Hosp. Rep.*, Oct., 1929, p. 486.
- 5.—*Lancet*, 1929, II, 1064.
- 6.—Cramer: "Fever, Heat Regulation and the Thyro-Adrenal Apparatus".
- 7.—Goldzieher: "The Adrenals," p. 78.
- 8.—Koehler: Quoted in Harrison's "Chemical Methods in Clinical Med.," p. 180.
- 9.—Snapper: *Brit. Med. J.*, 7-3-31, p. 400.
- 10.—Pace: *Am. J. Physiol.*, LXVI, I, Sept., 1923.
- 11.—Oriol: *Guy's Hosp. Rep.*, Oct., 1930, p. 425.

Auchingramont Road, Hamilton.

## Notes from the American Public Health Association

Reported by George B. Lake, M.D., Chicago

EVERY physician who is in touch with the new part which the medical profession seems destined increasingly to play—that of Doctors of Health and conservers of individual wellbeing—is vitally interested in some or all of the lines of work being carried on by the American Public Health Association, which draws its membership from Canada and Mexico, as well as from the United States. That is why I was especially glad to attend this year's (the sixtieth) meeting of the Association and bring back some of its high lights, especially for the city and county health officers, public health nurses, social service workers and all who are directly and practically engaged in preventive medical activities—and that now means most of us.

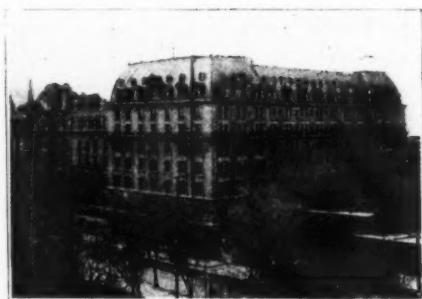
The choice of Montreal, Province of Quebec, Canada as the place for this meeting was a happy one. This charming city is one of the most interesting communities in North America. Situated on a large island, at the confluence of the Ottawa and St. Lawrence rivers, which rises, near its center, to a height of 700 or 800 feet (the beautifully wooded Mount Royal, from whose summit, on a clear day, one can see the Green Mountains and the Adirondacks to the south, and the Laurentian

Mountains, to the north, and from which the city takes its name), it combines the flavor of the old world with that of the new. Within a half-dozen blocks one can find skyscrapers of the most modern type and odd little old houses, up mysterious alleys, built by the French settlers a couple of hundred or more years ago.

Seventy-five or eighty percent of the population speaks French; the street signs and advertising are in French and English; the salespeople in the stores and the policemen (one is in a quandary whether to call them "Bobbies" or "gendarmes") speak both languages; but all the people are eagerly and proudly Canadians.

There is a feeling of freedom, confidence and progressiveness about the town and its inhabitants that makes the casual visitor want to return at no long interval, or even to settle down and stay there, to live on one of the winding and tree-shaded streets of the beautiful French suburb, Outremont, the more pretentious, but less inviting, English settlement, Westmount, or even in one of the attractive apartment buildings in Montreal proper, whose second stories are reached by picturesque outside stairways.

Two complete universities work here, side by side: McGill University, whose



The Windsor Hotel, Where the Convention Was Held.

fame is world-wide, where all instruction is given in English; and the University of Montreal, where teachers and students speak nothing but French. In the public schools, both languages are used in all teaching.

#### MEETING AND EXHIBITS

The meetings of the Association were held at the Windsor Hotel, which was long the pride of the city and is still a comfortable and luxurious hostelry, though now oustripped, in the matter of modern appointments, by the newer Mount Royal Hotel.

This is one of the few meetings of its kind at which the proportion of women attendants is as great or greater than that of the men, because nurses, dietitians, social service workers and other feminine health conservers find matters of vital and personal interest presented. The total registration, of fellows, members and guests, was about 1,250. Louis I. Dublin, Ph.D., statistician of the Metropolitan Life Insurance Co. is the newly-elected president.

The commercial exhibit, while small, as compared with that of the A. M. A., for instance, was well attended and closely studied. The manufacturers of hygienic foods (such as the Kellogg Company and the R. B. Davis Company—Cocomalt), and the producers, distributors and purveyors of milk and milk products, were well represented; also the manufacturers of disinfectants, vermin destroyers (such as Ratox) and similar products.

One of the most interesting and universally applicable sanitary appliances shown was the Sani-Gard system of individual protection of public toilets, by means of tissue-paper covers, cleverly designed and easily dispensed, a picture of which is shown herewith. One can foresee the day when these aids to cleanliness and prophylaxis

will be required by law to be used in all places offering toilet facilities to the public, as individual paper drinking cups are now mandatory in most states and cities and in all interstate passenger carriers.

A number of new and interesting vitamin products were exhibited by Ayerst, McKenna and Harrison, Ltd., of Montreal, including biologically standardized doses of several of these important substances.

The scientific exhibit included the double booth of the Metropolitan Life Insurance



Sani-Gard Toilet Seat Protector.

Company, New York, where literature on public health and individual disease prevention was distributed, another distributing center for literature, conducted by the American Society for the Control of Cancer, an interesting exhibit of the work and teachings of the Gradwohl Laboratories, St. Louis, and the illuminating demonstration of *three-dimensional graphs*, made and presented before the Association by Dr. W. G. Smellie and Mr. W. F. Wells, of the School of Public Health, Harvard University, in three different forms: the "raw" or purely mathematical; the partially digested; and the fully integrated, which looks like a range of mountain peaks and valleys. The second form is the easiest for most medical men to understand and appreciate, and is made by plotting the graphs of a set of figures, like those for typhoid mortality, for a year; sawing a



silhouette of the graph out of thin board; and then superimposing a series of these wooden silhouettes for a period of years upon each other.

The educational service of the Association should be far better known to all physicians. It specializes in assisting all who are speaking or writing on health subjects and those, especially, who are publishing health bulletins. It would be a fine idea to write to the Association, at 450 Seventh Ave., New York City, for full particulars of what they offer.

In addition to the formal programs of papers and discussions, personally conducted trips were arranged, for sanitary engineers and others interested in such matters, to visit the large sewers under construction, the industrial, filtration, incineration and milk pasteurization plants of the city of Montreal, and also the Sacré Coeur Tuberculosis Hospital and the Terrebonne County Health Unit, at St. Jérôme. A post-convention boat trip to Quebec, Grosse Ile and Murray Bay was also made available.

It is of interest to note that one entire afternoon session was devoted to discussions of mental hygiene.

#### ABSTRACTS OF PAPERS

##### CONCEPTS OF MENTAL HYGIENE

By George K. Pratt, M.D.,  
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Associate Medical Officer, National Committee for Mental Hygiene

I.—There is always, behind human conduct, a dominant purpose or motive. Trying or antisocial behavior is not due to "pure cussedness" nor "original sin."

Behind the main purpose, there may be many other more or less completely submerged or concealed motives. For example, (1) in the case of the husband who repeatedly deserts his wife and family, the

wife may be so pathologically "good" that the husband cannot call his soul his own; (2) in the case of the chronically alcoholic mother who neglects her children, her sober thoughts may be too terrible for her to bear; and (3), in the case of the girl who leaves her widowed mother, in order to develop a career for herself, there may be a background of unendurable maternal vampirism.

II.—We must study the problem of mental hygiene in four fields: physical, intellectual, emotional and that of social adjustments.

A physical examination is important and necessary in every case, as endocrine dysfunctions may frequently prove to be the underlying factors.

The first and most important rule for parents and teachers to learn is that the education of the emotions is as important as that of the intellect.

III. — The whole patient must be studied, not one or several fractions of him.

IV. — Human nature can and must be changed by the pressure of public opinion and by education.

An epigram uttered by George Bernard Shaw furnishes a fitting closing thought:

"We need parents fit for children to live with."

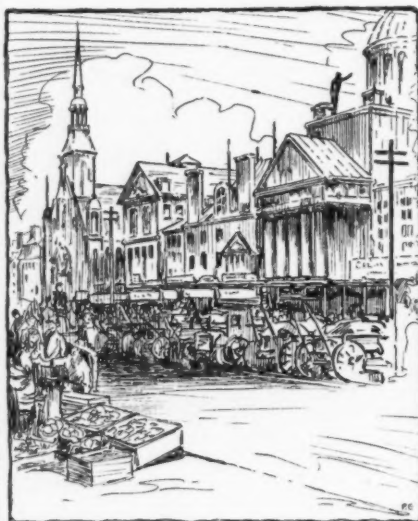
##### MENTAL HYGIENE AND THE CHILD

By George S. Stevenson, M.D.,  
New York City

Field Consultant, National Comm. for Ment. Hygiene

In planning a program for work in mental hygiene for the child, we must remember that a system which will fit the needs of one community may be wholly unsuited to those of another. Individualization is necessary, the same as it is in the practice of medicine.

In studying a community problem, we must proceed as we would in studying an



Bonsecour Market.



St. James Cathedral, a Quarter-Size Replica of St. Peter's in Rome.

individual patient: First we must hear and evaluate the *complaint*; then proceed to make an *examination of the present condition*; after that, arrive at a *diagnosis and prognosis* of the case; and finally map out a *line of treatment* which promises to be successful in the *particular circumstances*. There must be a *flexible program*; not mimeographed prescriptions and directions.

There will always be four phases in the solution of the problem: custodial care of the hopeless cases; remedial measures for the curable; preventive efforts, to save those who are not in immediate need of treatment; and a general program of *enrichment*—the development of *positive mental health*, not merely the absence of mental illness, as a margin of safety against possible later stresses—for all the children and young people.

#### MENTAL HYGIENE AND PUBLIC HEALTH NURSING

By Katherine Tucker, R.N.,  
New York City

General Director, National Organization  
for Public Health Nursing

I would reverse the order of Dr. Stevenson's four phases. Enrichment should come first; then prevention; then remedial treatment; and finally, custodial care of those who have escaped or resisted our efforts.

The mental hygiene point of view should infiltrate all the work of public health nursing. We must consider the emotional and social factors in the life of every individual, and not lay exclusive stress upon physical measurements.

Our great problem is to determine how we can make the tools of mental, as well

as physical, health available to people in general, and *teach them how to use those tools*. Psychiatric clinics should cooperate with public health nurses; and such cooperation, to be effective, requires a rather large staff of intelligent and well-trained workers.

Under present social conditions, the central and most important part of the work in mental hygiene is in the hands of *parents*.



The Church of Notre Dame—Second Largest on Western Continent.

#### MEDICINE AND MENTAL HYGIENE

By Charles F. Martin, M.D., F.A.C.P.,  
Montreal

Dean of the Faculty of Medicine,  
McGill University

The problem of mental hygiene is an integral part of the great public health problem. It is a *community undertaking*, beyond the scope of individual physicians; and this fact needs to be recognized by everyone concerned, so that they will not look at the matter solely from the viewpoint of the psychiatrists.

We must study mental, as well as physical, diseases in *their incipency*, if progress is to be made—and *every patient* seen by a physician is more or less a mental patient.

Physicians need to know more about the *prevention* of disease, in all its phases. Prophylactic medicine should be taught and emphasized in *every department* of every medical school.

We must start our efforts for mental hygiene with the children; and we must teach the teachers, as well as the parents.

### ADVANTAGES OF TOXOID IN DIPHTHERIA PROPHYLAXIS

By W. T. Harrison, M.D.  
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National Institute of Health

Diphtheria toxin-antitoxin is made by adding enough antitoxin to an active toxin, to make it safe for injection into a human being. It always produces local reactions (if not, the patient is already immune or the dose was too small), and sometimes general reactions. It may sensitize the patient to horse serum; though preparations are now being made from sheep and goats, so that commercial antitoxin can be given later with safety, if necessary.

Toxin-antitoxin preserved with phenol or cresol becomes inert or even toxic, and appears turbid or opalescent, after freezing. Such preparations should be kept in the warmest part of the refrigerator (the top) and *should not be used unless they are crystal clear*. Three injections are given, at intervals of five to seven days, and will produce immunity (as estimated by the Schick test) in from 60 to 70 percent of children.

Toxoid is made by adding 30 percent of formalin to an active toxin and incubating it, at 39°C., until animal tests show that the toxicity has been destroyed. Its immunizing value is so much higher than that of toxin-antitoxin that all toxoid now on the market is more effective than any toxin-antitoxin; it contains no serum of any kind; undergoes no change on freezing; and nothing can make it toxic.

Toxoid is given in two doses of 1 cc. each, with an interval of 2 to 4 weeks (the latter is better) between them. In sensitive persons (determined by a preliminary test), the initial dose should be 0.2 cc. The only obstacle to giving toxoid is a tendency to produce allergic reactions in a few of the older children. These reactions are merely unpleasant—never dangerous.

All adults and older children should be

given a Schick test before administering toxoid, as few adults need this protection, and many of the older children are immune. In children under 7 years, toxoid may be given without a preliminary test, and will produce few local and almost no general reactions.

*The earlier in life toxoid is given, the better.* One child, immunized before the age of five years, produces an effect upon the diphtheria deathrate equal to that of three children immunized after they begin going to school.



Old Guard Towers (built in 1694), Seminary of St. Sulpice.

### RADIO[BROAD- CASTING IN HEALTH ED- UCATION

By Elizabeth C.  
Nickerson,  
Hartford, Conn.

Bureau of Public  
Health Instruction,  
State Dept. of Health

If health authorities will prepare radio talks that are attractive and snappy—full of human in-

terest—they can almost always get time on the air without paying for it. If the talks are dry and tiresome, the station loses confidence in the whole program and withdraws the free privilege.

Monologues and dialogues (questions and answers), with action indicated, will work best to hold people tuned in, in competition with other interesting broadcasts.

Mothers and home-makers are best reached in the midmorning or early afternoon. The whole family can often be appealed to about noon.

Radio talks may profitably be rewritten (if necessary) and released through the press, thus doing double duty.

It is difficult to estimate the effect of a broadcast, except by the number of requests for further information which come in. It is sometimes a good idea to make a deliberate and readily observed error in the talk, for "brickbats" seem to come in far more readily than "bouquets."

#### Discussion

Information given over the radio should be of a direct, personal nature; not propaganda for influencing legislation, pleas for assistance and such things.



A drama in fifteen episodes—"The Martin Family's Vacation"—in which the people talked like human beings (which few do in front of a "mike"), took well; and Haggard's series, "Devils, Drugs and Doctors," is still going over in a big way.

People must be trained for broadcasting. Not everyone can do it. The broadcaster should make himself comfortable, by taking off his coat and collar, and if threatened with "mike fever," may have a small "audience," on the other side of the plate-glass window, to obviate the sense of emptiness and talking to oneself.

#### EDUCATION AND TRAINING OF PHYSICIANS FOR PUBLIC HEALTH WORK

By J. H. M. Knox, Jr., Ph.D., M.D.  
Chief of the Bureau of Child Hygiene,  
Maryland State Department of Health;  
Lecturer in Child Hygiene, Johns Hop-  
kins School of Hygiene and Public  
Health

Child hygiene is concerned with the promotion of the health and vigor of the infant and older child through adolescence. A physician engaging in this field should have some knowledge of heredity. He should be aware of the great loss the child life of the nation sustains through indifference to the mating of the notoriously unfit.

An excellent method of promoting the health of children is to procure for them parents of good stock. A physician working in child hygiene must be instructed in the importance of adequate prenatal and natal care for every mother, and in the practical methods of providing this care. He should also have instruction and practical experience in infant feeding, and be familiar with the needs of the growing child as to rest, sleep, exercise, clothing and protection from communicable disease, and with the value of periodic health examinations as a means of detecting physical defects and incipient illness. He should know how to direct a health program in schools, including the sanitation of the premises, an examination of the children and instruction in personal and community hygiene in the classes. He should be familiar also with the methods of guarding the health of children engaged in industry.

Instruction in the above fields ought to be commenced in the medical school and continued in a school of hygiene and pub-

lic health, through lectures, references to the literature, and especially through experience in the field, under proper guidance.

#### MARKETING MASS EDUCATION

By Homer N. Calver, New York City  
Asst. Prof. of Hygiene, Bellevue and Uni-  
versity Medical College, New York  
University

Mass education is bringing the results of research to the whole public. Education is needed for adults, as well as for children, for it is the parents and teachers who must determine the employment of various prophylactic measures; and education is a lifetime job—not talking to a mass-meeting, but to a parade.

The production of knowledge has far outstripped its distribution. Health educators must remedy this condition.

In instructing the people, one picture is worth 1,000 words. In Europe they have permanent museums of hygiene (one in Germany was established in 1911, and another in Dresden in 1930), which are a great help in the educational program. They also have them in China and in Egypt; but we have none in the United States. A few temporary, traveling exhibits are doing a great work.

We must avoid deadly seriousness and stick to simple words when talking to the people. We must also combat the deplorable propaganda of those who are exploiting the present interest in health for their own profit. We must visualize the immense size of the job before us, and keep after it.

#### RURAL HEALTH SERVICE VIEWED FROM A NATIONAL STANDPOINT

By H. S. Cummings, M.D.,  
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Surgeon General, U. S. Public  
Health Service

Further development of rural health service constitutes the most important activity claiming the attention of both Federal and State authorities today. Preventing the spread of disease within the nation is a more difficult task than to prevent the spread from one country to another. The control within the nation cannot be by quarantine between states and cities, but by community-wide activity, in which environmental sanitation, general immunization and intensive educational work play

the most important parts.

Efficient local health departments save, not only their own area, but the nation. Therefore the nation should help in their development and maintenance. At the first of the year there were 579 counties in the United States with full-time staff—a small number for the total of 3,100 counties. Something more must be done.

Lack of funds is the chief obstacle, as is also lack of appreciation of the needs for a health service. Money must be pro-

vided from other than local sources. There is need for better service, and more harm than good results from setting up with too small a staff or one manned with untrained or unsuitable workers. The need for trained personnel is urgent. Stability in employment is necessary. The state should supervise the work of the local units.

The Federal authority should give financial support, consultation and advisory service, assistance in training the staff and research into administrative methods.

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## Injection Treatment of Hernia

By G. A. McDonald, M.D., Fairfield, Illinois

**I**N THIS paper I will discuss two topics only: (1) The feasibility of the injection treatment of hernia; (2) the difficulties which have been overcome and those still remaining.

Consideration should be given first to the feasibility of the treatment, for unless this treatment is practicable and successful, there is no occasion to discuss correlated subjects connected therewith, such as anatomy, diagnosis and differential diagnosis, trusses and how to fit them, technic of treatment, medicines used, etc.

It might seem an act of supererogation to even offer to defend the feasibility of this treatment, in the face of the facts that it has been in successful use for more than fifty years, that thousands of people have been cured by it and that the work is going on daily; but a defense is called for, not from a lack of success of the treatment, but from the unfounded, persistent and unfair opposition.

It is of no use to deny a demonstrated fact. The statements made against this treatment are general and name no specific charge nor furnish any proof. Unqualified statements are entitled to credit in keeping with the experience, judgment and veracity of the one making them. Surely, the statements of one without either knowledge or experience of this treatment are not entitled to credit.

In discussing a controverted subject, we cannot expect the reader to take too much on faith. Neither should a reasonable man be too incredulous concerning the state-

ments of one of known credibility. This paper must be brief, and I shall, therefore, offer some statements without either qualification or proof, but for which proof is available, though there is no space for it here.

Unless otherwise stated, reference is made to the indirect, inguinal hernias, in the male, this form being of more frequent incidence than are all other kinds, from natural causes, combined. That which may be said of this form of hernia is largely applicable to all other kinds. No statement herein relates to postoperative hernia, unless so stated. There are many of this class, most of which are not amenable to any treatment.

The cure of hernias by the injection method depends upon the tendency of peritoneal surfaces to form adhesions when brought into close apposition and fixed there. I expect to introduce arguments and evidence to prove that hernias can be cured by the application of this natural principle.

### MECHANISM OF HERNIA

An oblique inguinal hernia leaves the abdominal cavity through the internal ring, descends along the inguinal canal in front of the spermatic cord, and passes into the scrotum. In its descent it carries before it an invaginated fold of peritoneum, which becomes the internal covering of the hernia or the lining membrane of the sac.

In the embryo, the testicle develops in the lumbar region. From the sixth to the

eighth month it migrates, passing across the abdomen into the scrotum. In its descent it carries before it an invaginated fold of peritoneum, which becomes the internal covering of the testicle, or the tunic. We see, therefore, that the course and manner of descent of the testicle and that of an indirect inguinal hernia are practically a duplication of each other—they both arrive in the scrotum in a sac of peritoneum, with a tract behind opening into the abdomen.

In the case of the testicle, the tract closed completely by adhering to the spermatic cord and closing over the internal ring: In the case of the rupture it remained open. The question may arise in the mind of the reader, why the sac closed behind the testicle and remained open behind the hernia. Anticipating this question, I will say: The course of the testicle was *progressive and continuous*; that of the hernia, *spasmodic and recessive*. When the testicle came to rest in the scrotum, the peritoneal sac behind it closed by adhesions. The hernia made a thousand (estimated) attempts to escape from the abdomen and an equal number of recessions, minus one, before it finally reached the scrotum. It never remained in the scrotum long enough at any one time for the sac to form adhesions to it. It was in and out, up and down, every day, and usually reentered the belly at night. Occasionally some thoughtless soul left his rupture out over night, and did the same thing for several succeeding nights. It did not cause pain and he let it alone. To his surprise, when he undertook to replace it, it could not be done—it had become incarcerated—the hernial sac had become firmly adherent to its contents. The constant (or nearly so) self-reduction of the hernia when lying down at night, is the only reason why all hernias do not become incarcerated.

#### MECHANISM OF INJECTION TREATMENT

The pathologic incarceration of the hernia in the scrotum and the normal incarceration of the testicle in the scrotum are one and the same process. If the peritoneal surfaces of the hernial sac form adhesions to the rupture when left undisturbed for a few days, how much more likely would it be to form adhesions if the sac were in a collapsed state and its walls held in firm apposition for a sufficient length of time, by a well-fitted truss maintaining a constant and regular pressure!

*Peritoneal surfaces will adhere, when kept in fixed apposition.* Congestion or inflammation hastens the process. Certain drugs, injected into the hernial sac, and the walls of that sac held in firm apposition, under the pressure of a truss worn day and night, will assist the forces of nature in forming adhesions, to such an extent that the incredulous and uninitiated might question my veracity if I should tell them how quickly the process is sometimes completed.

That which can be done to, by, for or with a peritoneal surface in one place, can be done in another, under similar circumstances and conditions.

Nature closed the sac behind the testicle, and has closed it many a time over and around a hernia in the scrotum or femoral canal; disease and surgery have duplicated the act in cases too numerous to mention. The surgeon and the patient, especially the patient, are plagued by adhesions within the peritoneal cavity, following operations and from disease.

Attention is called to the *modus operandi* of a Murphy's button and a few sutures. By what necromancy or legerdemain is nature able to unite a severed gut in this manner, and then fail, with the aid of skilled medical service, to perform a similar cure in a collapsed hernial sac, with the aid of a truss? *The truss is the Murphy's button of the hernial treatment by injections.*

Every physician who has been long in general practice knows of spontaneous cures of rupture. Also it is a common occurrence for a rupture to be cured by a truss alone. The inflammation which has been set up in a sac and the surrounding tissues, in case of strangulation, where the rupture has been reduced by manipulations, is frequently followed by spontaneous cure. An incarcerated hernia (I am not referring to one acutely incarcerated by strangulation, in which no adhesions have formed) is an object lesson on adhesions within the hernial sac. The ease with which children are cured at home, many times by simple treatment or methods, is well known to every general practitioner. A well-fitted truss, constantly worn for one year, will cure practically every child under fifteen years of age.

The cure of hernia by the injection or ambulant method is: a duplication of a natural process, aided and abetted by a truss and medicines; a duplication of the

closure of the sac carried forward by the testicle in its migration; a repetition of that which takes place within the peritoneal cavity, following surgery and inflammations; the same process by which incarceration is formed; the manner of recovery by the use of a truss or of a spontaneous cure; a process analogous to the operative use of a Murphy's button, plus sutures. It is evidenced by the cure of thousands of cases; proven by more than fifty years of successful use; and a treatment against which not one specific objection can be sustained by competent evidence.

#### DIFFICULTIES ENCOUNTERED

The reasons why this treatment has made so little visible progress since its introduction, during the 70's of the last century, may be discussed under the following headings: (1) A lack of knowledge of the causes of infections, at the time the treatment was first used; (2) non-medical practitioners taking up the work; (3) the use of secret remedies and exploitation; (4) opposition of "orthodox" Medicine; (5) absence of a reliable source from which competent and complete information could be had.

1.—When this treatment began to be used, the causes of infections were not generally known or understood and the germ theory had not become well established. As late as 1892, while in college, I heard a professor lecturing to a class of students and denouncing the germ theory of disease.

The hypodermic syringe, its care and use were in their infancy. Dr. Wm. Todd Helmuth, in his "Surgery,"\* devotes considerable space to this treatment. He mentions that Dr. Warren had improved the method, "Not only in regard to the material injected, but the apparatus for *throwing* in the fluid"—which apparatus was an "embryo" hypodermic syringe. Only as a reminder is it necessary to mention the exposure of the patient to septic infection by the use of a crude hypodermic syringe of sixty years ago. Serious infections followed the injection treatment so frequently that progress was materially interfered with; however, many brilliant cures were effected. The success achieved was conclusive evidence that the treatment possessed great merit, when and if it could be perfected to the degree of safety. The

development of antiseptic methods removed the first difficulty.

2.—The introduction of this treatment largely antedated legislation regulating the practice of medicine. The early legislation generally recognized the "rights" of those doctors who had been in practice for a specified time, regardless of their lack of medical knowledge or qualifications. The ruptured people have always been a fertile field for exploitation by medical adventurers. This class of irregulars seized upon the opportunity offered by the popularity following the introduction of this treatment, and the treatment suffered from the depredations of this unscrupulous group. At a time when any man could assume the title of Doctor, hang out a shingle and invite public patronage, the results were bound to be disastrous, especially when they were using a crudely-devised and dirty hypodermic syringe. The injection treatment offered opportunity for the operation of these derelicts, still afloat upon the open sea of medical practice, whose bounds were just beginning to be defined. Anything medical became polluted when touched by these charlatans. The injection treatment of hernia suffered from these barnacles which clung to it. They were the second great load this treatment had to carry in its infancy. Difficulty No. 2 has now been overcome.

3.—The third difficulty was the secret remedy. These are so thoroughly outlawed today that no argument is necessary against them. The cause of Medicine never has been advanced by being surrounded by secrecy or exploited as a commercial proposition. The free flow of medical knowledge must not be obstructed; and of no less importance is a free, unrestricted and unhampered flow of medical service to the people. Knowledge must be available to all under like circumstances, and service must be made available to those who need it. Secret remedies contravene these two principles and are adverse to public policy.

Up to 1884, there was not one good prescription generally known for this work. In that year, F. H. Wray brought out his secret "Fidelity Treatment." It was a remedy of great merit, considering the time, and has rarely been equalled or excelled since. Being a secret remedy, it died with the doctors who bought the "right" to use it, as some 200 did. Difficulty No. 3 has passed. The best treatments ever devised

\*Helmuth, Wm. Todd: "Surgery" (4th Edition), Philadelphia, 1886, F. E. Boerick, p. 873.

are now freely available to those who can use them.

4.—The fourth difficulty is not amenable to reason; is not removed and does not yield to evidence; is deaf, dumb and blinded by ignorance and prejudice; has no foundation in fact; cannot be sup-

ported by competent and conclusive evidence. Difficulty No. 4, professional opposition, is still present.

5.—Until recently it has been impossible to secure complete and comprehensive information upon this subject. That difficulty has now been overcome.

## The Physical Characteristics of Urine as an Aid to Diagnosis\*

By Clifford Mitchell, M.D., Chicago

MANY physicians seem to think that urine analysis is an affair for chemists, hence a man who concerns himself mostly with urine analysis is usually referred to as a chemist. As a matter of fact, however, much of clinical value can be learned from the urine without the aid of a chemical laboratory, since a knowledge of physiology, supposedly possessed by every doctor, coupled with ordinary observation of the patient's general condition, will often give more information to the doctor than the results of chemical tests of the urine alone. This paper will try to outline just what we can learn in this manner.

First as to acidity: Normally, urine is said to be acid in reaction; that is, to turn blue litmus paper red. But the clinical question which so often concerns us is, when is it hyperacid; i.e., more acid than normal? A case, from practice, should here be considered:

The patient was a tall, vigorous-looking young man who came into my office at about 10:30 A.M., handed me a bottle of his urine and requested a report on its degree of acidity. I made the determination, found it about 100°, by the ordinary titration method with decinormal sodium hydroxide solution and phenolphthalein indicator, wrote him a report and gave it to him to hand to his family doctor, who had sent him to me.

He kept coming back, at intervals of a month or two, and I made several determinations, all virtually agreeing as to high acidity in his case. Finally he asked me my opinion. I had him urinate into a clean glass container, determined the acidity of

this freshly-voided specimen and found it only 20°, instead of 100°, as was usually the case when he himself handed me a bottle of his urine.

To cut the story short, the highly-acid urine in the bottle, which he had given me a number of times, was always some of the urine he had voided on rising in the morning, which is normally the most acid in the whole 24 hours. On the other hand, the urine he passed in my office, an hour or two later, was the urine of the so-called "alkaline tide" of Ralfe and Ellis, the least acid of any in the 24 hours. In other words, the acidity of urine varies according to the time of day, hence, before giving an opinion as to hyperacidity, a certain amount of investigation is necessary.

My method of conducting the investigation is to have the patient collect the entire urine for 24 hours observing carefully certain directions.

### DIRECTIONS FOR COLLECTING URINE

Urine in the best condition for examination must be concentrated, well preserved and free from drugs. Concentration is obtained by moderation in drinking; that is, by drinking not more than six cups (one quart) of all liquids in 24 hours. Preservation is accomplished by urinating directly into clean glass containers, such as pint fruit jars, immediately closed and kept in the coolest possible place. Absence of drugs is secured by omitting all medicines, if allowable, for a day or two before collection. Aspirin, headache powders, sodium bicarbonate, milk of magnesia, mineral waters, sour drinks and synthetic liquors are taboo during the collection.

Collection of the 24 hours' urine means more than saving a mixture of the whole.

\*Essentially the second part of the writer's talk before the Medical Round Table of Chicago, in October, 1930, completed and brought up to date.



The urine of three different periods in the 24 hours is to be saved separately and examined separately. To do this proceed as follows: (1) Begin, with an empty bladder, after breakfast, and save all urine passed until bedtime, including the last passed before retiring (this collection shows the analyst the influence of food and muscular exertion), and preserve it in containers labeled No. 1; (2) save all passed after retiring, including that on rising in the morning, in containers labeled No. 2 (this collection shows the analyst the influence of fasting and of rest in bed); (3) furnish also a third collection, in a container labeled No. 3., passed an hour after the last of No. 2 has been collected, or as soon thereafter as possible, and before the food of breakfast has been digested. (This small specimen instructs the analyst best as to acidity, since it is normally the least acid of all.) Fruits for breakfast are to be omitted on this day.

When the 24 hours' collection is obtained according to these directions, blue litmus paper may show that the No. 2 specimen is the most acid, No. 1 the next, and No. 3 the least. But for visualizing acidity I have devised a method which I deem superior in certain ways to litmus, certainly more spectacular in results and rather more practical for clinical uses; namely, by use of a solution of a colorless chromogen of the rosaniline class of dyes.

#### ROSANILINE INDICATOR

To make this solution proceed as follows: Heat to boiling 500 cc. of distilled water; add to it 500 milligrams of Rubin S. (Grübler), which is also called sodium rosaniline sulphonate, in commerce. After the dye has dissolved in the boiling water, add 25 cc. of decinormal sodium hydroxide solution and continue the boiling for a minute or two, until only a faint pink color is to be seen. Pour into a bottle and close tightly with a clean rubber stopper.

Acids restore the red color to the solution, which inclines to redden on exposure to air, hence it is necessary to use extreme care in preservation of it. Never dip anything which has been used for conveyance of acids, as, for example, pipettes, into the rosaniline solution.

When it is necessary to use the solution, pour a little of it into a wide-mouthed container, as for, example an inverted small egg cup and take it up with a clean

medicine dropper used only for this purpose.

Provide three porcelain or vitrolite plates the size of the lining of a fruit jar cap (which can be obtained by dissolving the metal of a fruit jar cap in hydrochloric acid and washing the plates free from acid), take up urine with a clean medicine dropper and drop 10 drops each of the day, night and fresh urine each separately on one of the three plates. Then add one drop of the Rubin solution to each. Whichever one turns red first is the most highly acid. Eventually the most acid specimen shows the greatest area of red color. Normally the night (No. 2) specimen is most acid, the day next, the fresh least, provided acid fruits or drinks are not taken at breakfast. The relative acidity of the three specimens may normally be thought of by comparing the sizes of the half dollar, quarter dollar and dime, respectively, the half suggesting the degree of acidity of the night urine, the quarter the day and the dime the fresh.

I have used this method daily for a year and found it clinically very handy, especially when interrupted often by patients or phone calls. The test takes care of itself and works while one is engaged elsewhere. Its results are, moreover, more easy to remember than those of litmus, as it is more spectacular. The principal objection to it is the difficulty of keeping the solution from turning red, through carelessness or forgetfulness. I kept my sample colorless for a year, but an accident finally happened, and it all turned red, necessitating the making up of a new solution in July, 1931. However, it takes only about 10 minutes to prepare the solution.

As for expressing results of the use of my indicator in figures, I do not advise it, inasmuch as the solution itself is not neutral, but alkaline, containing, in 525 cc. of liquid, 25 cc. of decinormal sodium hydroxide solution. Hence the pH value of it is above 7.0. Moreover, with age, this pH value may change. I do not see the necessity for the use of figures, since for clinical purposes, the + sign so often used in records of hospitals is sufficient. For example, ++ may be used to indicate normal acidity, + for feebly acid urine and +++ for strongly acid urine. The principal value of the indicator, in my hands, has been to show definitely which one of the three specimens of a given

patient's urine is most acid and to regulate the diet and treatment of the patient, so that the normal cycle of acidity, if absent, is restored.

#### OTHER PHYSICAL FACTORS

Not only does the acidity of the urine vary but, speaking in terms of day urine, night urine and fresh urine, the volume, odor, specific gravity, appearance and color vary, so that, when any one says "urine," in the course of a speech or paper, it is necessary for him to explain what he means by the term.

The following table shows the variations in physical characteristics of the three specimens collected according to my standard directions during health:

	DAY	NIGHT	FRESH
Volume .....	Most	Less than day	Least
Odor .....	Next to night if well preserved	Most	Least
Specific gravity .....	1020 or less	1020 or more	1012 or less
Appearance .....	More or less cloudy	Clear	Often cloudy
Color .....	Lighter yellow	Yellow or darker	Light yellow
Acidity .....	Moderate	Strong	Faint or none

It goes without saying that, if the day urine is not kept on ice, bacterial development takes place and an unpleasant odor is noticed, but this, in the absence of urinary retention, merely means disregard of directions and has not necessarily any clinical value.

There is a good deal of talk about tests for renal function, but, primarily, the function of the kidneys is to concentrate the urine and then to dilute it, hence the ability of the kidneys both to concentrate and dilute is worth knowing. This is roughly determined by carrying out my directions and observing the specific gravity of the specimens. If the specific gravity of the night urine is 1020 or more, that of the day 1020 or less, and that of the fresh under 1015, it can reasonably be inferred that kidney function is good.

One of the surest signs of bodily dis-

turbance is nocturnal polyuria; i.e., more urine by night than by day, and of lower specific gravity. The condition is one of great interest. It occurs in nervous women, probably due to toxemia from some cause or other, or from disturbance of the circulation as at the menopause or after; it is commonly found in women with gallstones or other hepatic conditions; it is one of the most usual phenomena of chronic nephritis; and is found in weak heart conditions, due to almost any cause. Care must be taken, in the case of those of convivial habits, who spend the evenings drinking various liquids and are, in consequence, up several times at night, not to assume that disease is indicated.

#### ACIDITY AND SPECIFIC GRAVITY

Identical or nearly identical acidity and specific gravity are of great clinical interest. High acidity in all three specimens we notice in diabetes mellitus, gout, stone and in one class of arthritis cases. In diabetes mellitus, the fact that urinary sugar is reduced in amount does not necessarily mean that the normal cycle of acidity will be established, which is another story and demands particular attention. In any case of diabetes, the establishment of the normal cycle of acidity must be regarded as one of the features of a manageable case, and as a compliment to the skill of the physician in carefully balancing the diet.

Identical or nearly identical specific gravity of the three specimens is another diagnostic point of interest. Inability to

dilute the urine occurs in cardiac cases, accompanied by renal stasis, as in valvular diseases. Here the volume is decreased and the specific gravity of all specimens tends to be high.

On the other hand, identical low specific gravity of the three specimens is a well-known feature of advanced chronic nephritis—the so-called “fixed” specific gravity, 1.012 down to 1.005, usually around 1.010, coupled usually with the findings of albumin and casts and the features of blood chemistry and blood pressure typical of this condition.

In many cases of albuminuria with fixed specific gravity, great caution must be exercised in the matter of prognosis, since the family may be inclined to take a more favorable view of the case than is warranted. Low specific gravity of all three specimens may be noticed, however, in

the case of neurotics without nephritis, hence a history of a lifetime of low specific gravity and light colored urine must be sought for when albuminuria is absent.

Summing up, then, the conclusions are that, when my method of collection and preservation of the 24 hours' urine is carefully carried out, the physician can learn many things about “what is going on in the body”, as McDowell says in his “Clinical Physiology”, without, however, always being obliged to employ a chemist to carry out a strictly chemical analysis.

Clinical urinalogy has two legs to stand on: the one physiologic and the other chemical. In the present paper I have emphasized the clinical physiology, leaving chemistry to be considered at another time.

25 East Washington St.

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### THE CHANGING CONCEPT OF DENTISTRY

There is good reason to believe that maintaining dentistry as a distinct and separate profession is responsible for tardy progress, numerous errors and much suffering. It is quite obvious, therefore, that the conception that dentistry is a distinct division of health service is fundamentally erroneous and no one can affirm this without a strong bias.

The scientific practice of dentistry in all its phases, such as prosthodontia, operative dentistry, root-canal therapy, etc., implies an advanced medical understanding. This statement is not to be construed, however, as meaning that a medical degree is essential to the preparation of the dentist. We must distinguish between a medical training and the conventional medical degree in this connection. While it is true that the practice of general dentistry, in many of its phases, consists chiefly of procedures which require considerable technical skill, nevertheless the truly constructive and healthful application of these procedures is more effectively performed by one who is trained in the fundamental sciences and possesses both the dental and medical viewpoints.—A. BERGER, D.D.S., F.A.C.D., New York, in *Dental Cosmos*, Feb., 1931.

### STANDARDIZED CLINICAL RECORDS

The present-day standardization of hospital clinical records has led to stereotypism, perfunctoriness and mediocrity.

The effort to amplify records for the purpose of future statistical researches, except for specific objectives in special institutions, should be abandoned.

Students and interns should be encouraged to develop clue-mindedness in taking histories, rather than the following of routine.

Hospital examiners should shift the emphasis from the form to the contents of histories.—DR. E. S. KILGORE, of San Francisco, in *J.A.M.A.*, July 11, 1931.



# PHYSICAL · THERAPY AND RADIOLOGY

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## ETHICS AND PHYSICAL THERAPY

"ARTS are nothing except as they are fruits of a state—except as they indicate what the man is; words are nothing except as they express a mind or purpose." Ethics is "The science of the ideal human character," according to Stedman: "In relation to medical practice, the principles of correct professional conduct with regard to the rights of the physician himself, his patients and his fellow practitioner."

It is ubiquitously apparent that the medical *fraternity* is far from having achieved an ideal or satisfactory ethical standard. The disquieting manifestations accruing from acrimonious and suicidal dissension are notoriously and prolifically rampant and require no extended particularization at this time; however, there is one highly significant factor which is dominantly to be considered in this vital matter of professional ethics, as defined according to standard authorities.

Reviewing a recent textbook on electrotherapy, a certain physical therapist criticizingly writes: "One hardly feels that there is any particular need for special pleading for the practice of modern physical therapy. One usually finds an inferiority complex as the motivating cause to special pleadings." Unquestionably and unfortunately there is an inferior complex, on the part of a major portion of the profession, despite an occasional optimistic assumption to the contrary. Notwithstanding the incontrovertible clinical evidence of the essential as well as adjunctive worth of physical therapy, innumerable sufferers are still deprived of its ameliorating services.

Because of an inferiority complex, many physicians paradoxically believe that their inability to afford desired relief presupposes the same blissful inefficiency upon the part of all their colleagues; while an accompanying egotistical superiority complex enables them unreservedly to decry the possibilities of help from any agency with which they themselves are not familiar.

It would appear inconceivable, if not blatantly admitted by some of the offenders, that members of county and national societies should so far ignore the ethics of a physician and a gentleman as to asperse a fellow member as a quack or "the bunk," when replying to a patient's query concerning such member's ability as

a physical therapist; to decry any merit for physical therapy, and thus fatuously consign former clients to the more or less ameliorative mercies of irregular practitioners of the healing art. A satisfactorily referred patient will be referred back, and confidently and gratefully return, to the family physician for any and all subsequently needed service.

To callously and perversely misinform the patient that there is nothing more to be done and that physical therapy "is not of any scientifically proven or practical value, being purely psychic in its effects," infracts the rights of the patient and of the physician experienced in physical therapy, who are mutually entitled to ethical (humani-

tarian) consideration of their respective rights.

Correct appreciation of the patient's interests, first, last and always, demands that every possible, as well as probable, agency for relief be made available by the physician, through referred service, if he is not personally thus qualified. The interests (ethics) of the profession cannot be satisfactorily divorced from those of the patient. Only when physicians ethically unite to conserve the interests of all concerned, collectively as well as individually, will "he that does good for good's sake, seeking neither praise nor reward, be sure of both in the end."

J. E. G. W.

## Stricture of the Rectum Treated by Negative Electrolysis (Newman's Method)

By F. T. Woodbury, M.D., New York City

**I**N THE treatment of stricture of the rectum we have a choice of surgical or palliative or electrolytic methods. Of these three, electrolysis by the method of Newman<sup>1</sup> is preferable, from whatever aspect it may be considered, though strangely enough it seems to be lost in the dust of antiquity, as modern writers do not mention it.

According to Lynch<sup>2</sup> who undoubtedly gives the accepted knowledge of the subject in 1929, "A patient suffering from stricture is seldom wholly cured; but when properly handled a good functional result is obtained. . . . Strictures of large caliber can be materially improved by frequent irrigations with antiseptic solutions, but it will usually be necessary to resort to an artificial anus in order to achieve the best results."

As long ago as 1888, Rohé,<sup>3</sup> of Baltimore, said, "The treatment of stricture of

the rectum by gradual dilatation or linear proctotomy is notoriously unsatisfactory. All surgeons admit the inefficiency of the first and the danger of the second. In electrolysis we have a safe and apparently efficient method of treatment."

Stevenson,<sup>4</sup> of London, also wrote, "Strictures of the rectum can, like all other strictures, be treated by electricity. In the majority of cases there is no recontraction or return of the stricture; but if due to cancer, a fresh growth of diseased tissue is very likely to take place, necessitating a recourse to the treatment. Successive applications of electricity are far better than the *dernier ressort* of colostomy and may keep the intestines patent as long as the disease allows the patient to live."

Newman originated this method in 1871 (March).<sup>5</sup> He practiced for over thirty years, during which time he reported cases

1.—Treatment of stricture by electrolysis; Robert Newman, M.D., in "An International System of Electrotherapeutics," Bigelow and Massey, second edition, F. A. Davis & Co., Phila. 1901, p. G-122-G-132.

2.—Stricture of the bowel, Jerome M. Lynch, M.D., in "The Practice of Medicine," Chap. xxvi, sec. x, vol. vii, p. 728.

3.—Electrolysis in dermatology and some other departments of practical surgery; George H. Rohé, M.D., in *Atlanta Med. and Surg. Jour.*, vol. (new series) 5, No. 5, July, 1888, p. 287.

4.—The uses of electrolysis in surgery; W. E. Stevenson, M.D., etc., J. & A. Churchill, London, 1890.

5.—Specimen presented to the New York Pathological Society, April 10, 1872, and reported in the *N. Y. Med. Record*, vol. vii, 1872, p. 208.

which had remained well and free from symptoms for fourteen years. He said that electrolysis "has improved every case at least and, in the majority of cases, effected a cure." Many others, whom he mentions in the bibliography, reported the successful use of this method.

#### TECHNIC OF NEWMAN'S METHOD

A preliminary proctoscopic examination should be made, with a speculum affording adequate illumination to determine the nature of the constriction and its distance from the anus. Other pathologic conditions requiring concomitant treatment are thus revealed also.

The day previous or just prior to the treatment, and after the inspection, a *gentle* evacuant is employed. Any form of mineral or vegetable oil is objectionable, as interfering with the effective action of the subsequent electrical application; therefore salines or a simple hot water enema are preferable.

*The position of the patient:* While the treatment may be given with the patient in the Sims position or on the left side with a pillow between the knees, when for any reason it is the more comfortable, the preferred position is upon the back (the lithotomy position) with the feet in stirrups. This will be the position during the preliminary proctoscopy and therefore conveniently maintained during the subsequent treatment, which is of comparatively brief duration.

*The electrodes:* The indifferent or dispersing electrode is a flat sheet of metal, cut to the area desired and flexible enough to conform to the bodily contours. It is usually about 6 by 8 inches, with rounded corners and smooth edges, and has a socket with a turn-screw to hold the tip of the rheophore (cable).

A pad of some bibulous material, such as sponge, cellucotton or absorbent cotton, is cut with an area a little larger than the plate electrode, so that a margin of about one-quarter of an inch of the pad extends beyond the metal. The pad may be fixed by sewing it to the metal with silk or cotton thread. The pads are wet and kept moistened during their application by means of a two-percent aqueous solution of bicarbonate of soda or of common table salt and the application is made with the wet pad of the electrode laid upon the bare skin of the abdomen or,

better still, the sacrum, and fastened in place with a bandage, so that it cannot possibly slip during the time that the current is flowing.

Sometimes a large, cylindrical hand electrode is used, but it is not at all safe, being subject to shifting and being dropped. It is not recommended.

The active or operating electrode (Newman's) is selected by sounding gently to determine which size will pass the constriction without pressure. The next size larger is then selected for the treatment.

*Oily and soapy lubricants must not be used*, as they interfere with the efficient passage of the current. Glycerin or tragacanth emulsions are preferable. The treatment or operating electrode is always employed bare for electrolysis of a stricture.

*The electrolytic current:* In placing the dispersing electrode, be sure that there are no abrasions, pimples, eruptions or other abnormal conditions of the skin area chosen for the application of the pad; or if present, cover each of them with surgical adhesive plaster or with collodion. If you fail to do so, the current will concentrate at these openings in the skin and produce painful burns which, at the least, will prevent accomplishing the treatment and at the most will cause slow-healing ulcers. The skin also should be free of oil, dirt, ointments or plasters, which interfere with the passage of the electric current, before applying the electrode. A hairy skin may be moistened. Shaving is not necessary.

With the dispersing and operating electrodes in position, the latter resting gently but firmly against the stricture in the rectum, the dispersing electrode is connected with the cable going to the *positive (+)* terminal of the galvanic apparatus, and the operating electrode connected with the cable going to the *negative (-)* terminal. Be sure that the rheostat is at zero and that no current is flowing when the cables are connected, otherwise the patient will receive a shock that may frighten him from taking the treatment. Test the apparatus by touching the tips of the two cables together. If the meter needle does not move, no current is flowing and the connection may be made.

Keeping the operating electrode gently pressed against the stricture, the current is gently turned on and slowly and steadily increased to the point where the patient

complains of the painful sensation, when it is decreased to the point of tolerance, at which degree it is maintained until the treatment is concluded. It is not usually necessary to employ over twenty milliamperes of current, and a weaker current is preferable, if effective.

The current is maintained at a constant volume until the stricture softens sufficiently to allow the electrode to pass through with gentle pressure. This is a matter of from five to fifteen minutes, usually.

As soon as the electrode has passed through the stricture, the current is slowly reduced to zero, the cables disconnected and both electrodes removed.

The treatment is repeated weekly or every two weeks. At each treatment a larger Newman electrode is inserted, until the normal caliber of the bowel is attained.

*Variations in Newman's technic:* Where a general anesthetic is required (cancer), the current may be increased in volume. Dr. Newman reports electrolytic currents of from fifty to one hundred milliamperes, used by Dr. Earle. In cases where there are neoplasms, multiple electrodes in the shape of needles, either the ordinary sewing needle or needles of zinc cut with scissors, are connected by small insulated wires with the cable going to the negative terminal and inserted into the neoplasm. Stronger currents may then be used.

*After-treatment:* There is no pain, hence no sedatives or analgesics are required. The diet should be of easily-digested foods, with but little residue. If constipation occurs, a soap and water enema is indicated. Inspections are made from time to time to observe conditions and ascertain the possible need for further treatment.

#### INSTRUMENTS AND APPLIANCES REQUIRED

1.—A source of direct (constant) current of not over forty volts potential and delivering a current up to one hundred milliamperes in volume, though usually twenty milliamperes are sufficient.

2.—An efficient milliamperemeter, which is known to be accurate.

3.—A rheostat or current controller. These are found to be a part of the usual galvanic apparatus, whether the power comes from the house lighting circuit or from storage cells.

4.—Two cables or rheophores for connecting the patient into the treatment circuit. They should have tips of metal to fit snugly into the sockets of the terminals of the apparatus and the sockets in the electrode where they should be held by knurled screws, and must be sufficiently long to reach without tension. A section of ordinary electric light extension cord will furnish the two cables in one cord. The metal tips must be soldered, as a loose connection prevents the proper flow of low-tension currents and interferes with the smooth, steady electrolytic effect. The same can be said for clip ends, which cannot be used for this work.

5.—*The electrodes:* The indifferent or dispersing electrode has been described. The operating electrodes are a set of Newman's rectal electrodes, formerly made by Messrs. Waite and Bartlett. They consist of a metal (silver) bulb, flattened or egg-shaped, and are graded in size from one-quarter to one and one-quarter inches long, and from one and one-eighth to five inches in circumference. These electrodes are threaded to screw onto the end of a spiral, metallic stem, which is adequately insulated by a cover of rubber tubing. The stem may be made long enough to reach the transverse colon. Its advantages are that, being flexible, it will accommodate itself to the curves of the bowel and will also prevent undue pressure being exerted upon the stricture by the hand of the operator. It will not double on itself. The lower end of the spiral stem has a socket to receive the cable tip.

6.—While the treatment may be given on an ordinary couch or bed, a suitable examining and treatment table, such as the Allison, is preferable. Metallic tables should be covered by rubber sheeting and a mattress, to avoid short-circuits.

7th Ave. at 55th St.

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### WHAT ARE WE?

When we ask the question, "What is the truth about ourselves?" we must remember that there is one elementary and inescapable answer: We are that which asked the question!—SIR ARTHUR EDDINGTON.

# The Measurement of Ultraviolet Energy

By Herbert G. Frankel, D.D.S., St Louis, Mo.

ULTRAVIOLET technic is now becoming standardized so that, no matter what type of lamp is used (by this I mean quartz-mercury lamps), it is possible to obtain the same results, if definite fundamental facts are followed.

When the ultraviolet rays were first used, little or nothing was known about the intensity of the various wave bands or the type of wave bands that would produce certain results. The rule of following in the footsteps of those who had experimented with ultraviolet given off by the sun was, for the most part, an accepted technic and practically all who practiced physical therapy followed this technic without a question. The sum and substance of this technic was to produce a tanning effect on the patient, and the darker the individual became, the more pleased were the technicians. Even today, there are still many who believe that tanning is absolutely essential to the success of the treatment. Some of the bad effects produced by such procedures have been brought out in my previous paper entitled, "Clinical Symptoms of an Overdose due to Ultraviolet Exposure."

It is not my intention, in this paper, to go into the history of the many changes that have taken place in technic during the past few years, nor to describe in detail the many discoveries, made by many individuals, which have changed our entire thought as to the biochemical changes produced by these rays. To such scientists as Steenbock, Bovie, Hess, Mecht and many others belongs the credit for placing ultraviolet treatment on a scientific basis, and it is through their efforts that ultraviolet technic has reached its highest efficiency. We must also give praise to Dr. Herman Goodman for his splendid work in subdividing the wave lengths into their three component parts of extravital, vital and intravital wave lengths, as this contribution has also aided us materially in the formation of a workable technic.

However, what good would all of these many discoveries do, if we still had to guess as to the strength or intensity of the radiation emitted by the quartz-mercury arc?

In the old days, the intensity was based

upon skin tolerance and, as many know, a piece of paper was used that had several slits in it, and the part was exposed, using several different distances and times, until the proper dosage for the individual was established. This was very unsatisfactory and did not give definite results.

Other measuring devices have been brought into use. For example, highly sensitized photographic paper was used, and the color and time required for the change of color determined the intensity. Oxalic acid solution was also used and the intensity was gauged by the change of color of the solution after exposure to the ultraviolet rays. Another instrument is the Gordon photometer, which matches colors and gives the intensity by means of a meter attached to the instrument. All of these, however, have never been very successful, as colors appear differently to different individuals and, in the case of photographic paper, one could not prevent the control paper from becoming slightly darkened when exposed to light, and it grew darker as it aged. In the case of oxalic acid, it is absolutely necessary that the acid be fresh and that it has not been exposed to any light at all.

There is however, a photometer that is fairly accurate and reliable. This is the Burt photometer, which consists of a photo-electric cell and a galvanometer. This photometer measures the ultraviolet energy in gram-calories per centimeter squared, per minute, and these have been designated, by Burt and others, as *ultraviolet units*.

It is not my intention to describe this apparatus in detail, but I will say that the photo-electric cell is covered by two interchangeable filters, one of quartz and the other of plate glass, so that the entire radiation may be measured and so that the vital ultraviolet may be filtered out. It is possible actually to measure the intensity of the ultraviolet energy coming from any mercury-quartz lamp with a great degree of accuracy.

According to Dr. Burt, it requires sixty ultraviolet units to produce a first-degree ultraviolet erythema in one minute at thirty inches, on the average untreated skin. This has been worked out by exposing a



great many people to the rays, using the above as a basis. It does not mean that one must use any particular lamp to accomplish this, but one must use sixty units. For example, if one has a lamp, the intensity of which is twenty units at thirty inches, it will require three minutes to produce a first-degree erythema on the average untreated skin. It is easy to see how this is going to affect the technic and produce uniform results if, instead of prescribing erythemas, as was previously the practice, the physician now prescribes ultraviolet units.

How, then, should one go about it to calibrate a lamp? There is a number of lamp dealers who are equipped with these photometers, and will calibrate your lamp and give you the intensity, not only of your air-cooled lamp, but also of your water-

cooled lamp and all of your applicators. If your air-cooled lamp calls for 10 ultraviolet units at thirty inches, you know that it will require six minutes for a first-degree erythema; a second-degree erythema will require about twelve minutes; and a blister about eighteen minutes, at thirty inches. You can also have them calibrate the intensity at twenty inches and at ten inches, in order that you can be sure to get the proper dosage.

In conclusion, it is now possible for a physician to have his lamp calibrated and to prescribe definite dosage in ultraviolet units for his patients. This eliminates a great many of the empiric prescriptions and puts ultraviolet therapy on a real scientific basis.

3974 Olive St.

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## CLINICAL MISCELLANY

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### Arthritis

**A**RTHRITIS is one of the most troublesome of conditions with which the orthopedist has to deal. If of the traumatic, atrophic or hypertrophic type, good results usually follow static sparks, for the relief of tension of the muscles surrounding the joint. If of the infectious type, we are dealing with a general and not a local condition. In this case, a redundant and static colon may be as much the inciting factor as infected molars.

Where the arthritis has proceeded to destroy cartilage, causing fibrosis and ankylosis, treatment becomes more difficult and requires more painstaking attention. We must wait for the acute stage to subside, and then begin with passive exercise and massage at first, and proceed to active exercise. Frequent and oft-repeated exercises constitute the key work, especially in the atrophic arthritis with deformity, in order to prevent further fibrosis. A low-protein diet might also be indicated in this condition.

In the treatment of gonorrheal arthritis, we usually are dealing with a chronic affair. Infrared therapy, together with diathermy and static sparks, will help the patient in a majority of cases.

To remember what can be done for the disabled gonorrheal arthritic, is to recall the work of Major Sampson during the

War. He requested that the patients, who had had every form of treatment in the medical, surgical and genitourinary departments and were about to be discharged 100 percent disabled, be turned over to him. After applying proper physical therapy measures, using deep-therapy lamps, infrared rays, diathermy and static massage to fibrosed joints, about 85 percent were benefited and many were sent home 100 percent efficient.

LOUIS J. GELBER, M.D.

Paterson, N. J.

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Send for your copy of "What About Heart Diseases." Educate your patients.

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### Pruritus of the Anus and Vulva

**I**N THE treatment of pruritus and eczema of the anus and vulva, I have never employed ultraviolet rays alone, but only in association with other local remedies. I find it safe with my present outfit, in longstanding, indurated cases, to give a half-pastille dose of x-rays and follow it up with half an initial dose of ultraviolet rays. When there is an acute reaction after a long dose of ultraviolet rays or after a combined ultraviolet and medium x-ray dose, the final result is very good; however, few patients forgive this reaction, even when they have been told to expect it.

The high-frequency current is an agent of great value in long-standing cases, with edematous swelling or thickened induration. After giving a new case a dose of x-rays, there is usually an interval of ten days before any effect is visible. It is during these days that the high-frequency vacuum tube applications are so useful.—DR. AGNES SAVILLE, London, Eng., in *Practitioner*, Apr., 1931.

### Myalgia and Neuralgia

**I**N MYALGIA, the main object is to induce the muscle to relax. In some cases, as in severe attacks of lumbago, the patient must stay in bed, but usually gentle heat is the chief weapon—warm baths, warm compresses, mud compresses of moderate temperature, mild irradiation by electric lamps or, still better, infrared rays. In other cases some effective sudorific is useful.

In neuralgia, we must soothe the nerve and relax the muscle. Specially useful for neuralgia are tepid warm baths, thermal baths, mud compresses, hot packs and radiant heat. For the nerve, the galvanic current or diathermy may be employed, as well as the roentgen rays.—DR. H. JANSEN, of Copenhagen, in *Brit. J. Physic. Therap.*, May, 1931.

### Titanium-Alloy Electrodes as a Therapeutic Agent

**F**ROM experiments, I feel justified in stating that I believe titanium-alloy electrodes to be a really valuable addition to the actinotherapist's equipment. Their composition is approximately 98 percent tungsten, 1.5 percent titanium, and 0.5 percent chromium. It might be thought that such a small proportion of titanium would be insufficient to make any appreciable difference, but I have tried it with as unbiassed a mind as possible, and I cannot escape the conclusion that, whatever the scientific explanation, titanium-alloy electrodes (when used in a suitably-designed apparatus) give results which are clinically better in many cases than those obtained with other types of radiation.—DR. W. A. TROUP, in *Brit. J. Actinother. & Physiotherap.*, Feb., 1931.

### Ultraviolet Treatment of the Dull and Backward Child

**M**ARKED improvement in the mentality of many dull and backward children treated for various disabilities by ultraviolet irradiation, was observed.—DR. F. SUGDEN in *Brit. M. J.*, Nov., 29, 1931.

## RECENT ABSTRACTS

### Electricity in Gynecology

In *M. J. and Record*, July 15, 1931, Dr. Agnes Saville, of London, Eng., points to the advantages of electrical treatments in gonorrheal and other inflammatory pelvic conditions in women.

Diathermy has produced some remarkable results in cases of adhesions, chronic pelvic exudation and chronic tubal inflammation. In acute conditions, and when pus is present, diathermy is contraindicated; its use may cause extension of inflammation from the tubes to the peritoneum.

As a general rule it may be laid down that, when pain is complained of during treatment by galvanism or diathermy to the cervix, there is present some degree of tubal involvement which renders it unsafe to continue with electricity.

Cases are recorded in which treatment to the cervix was continued in spite of pain being occasioned; extension to the peritoneum followed. In this type of case, treatment should begin with the vaginal application of diathermy;

an all-metal, then a metal-topped vaginal electrode should be used, twice a week (one to two amperes for twenty minutes), gently heating the whole pelvis. After a few weeks of this warming, it is usually found that a cervix which was sensitive can then be treated without pain.

This same cautious method has proved successful in reducing large pelvic exudations due to several types of organisms, as well as to the gonococcus. In a chronic exudate, with the uterus immovable from adhesions and a large mass in Douglas's pouch, mobility has been restored and great reduction in the size of the mass.

When applying diathermy to the pelvis, the indifferent electrode usually consists of a belt of lead some three and three-quarters inches wide. This is placed round the pelvis at such a level that a current from the vaginal active electrode passes through the area which requires treatment. This renders an even diffusion of current possible.

Dysmenorrhea of inflammatory origin responds to diathermy through the abdomen; about one-half of one ampere is given twice weekly through

the abdomen over each ovary for ten minutes. In the spasmodic type, diathermy through the ovaries gives excellent results for a time, but the condition relapses. Here galvanism is more successful, the negative pole being applied to the cervix; this method has obvious disadvantages in the case of virgins.

For amenorrhea and infantile uterus, diathermy has remarkable success, especially if the course is combined with the intrauterine use of galvanism. The rejuvenating property of pelvic diathermy treatments has been noticed in cases of climacteric arthritis; in some cases the menstruation has returned and the arthritis cleared up.

### X-Ray Therapy of Gonorrheal Arthritis

Dr. I. I. Kaplan reports, in *Radiology*, Dec., 1930, that during the past year 68 cases of gonorrheal arthritis were treated by x-ray therapy in the Bellevue Hospital, New York. In 26 cases a single joint only was involved; in 42 several joints were affected, the knee joint being that most frequently involved.

The technic used was high voltage x-rays with filtration of 0.5 mm. copper and 1 mm. aluminum; size of field treated, 9x12 cm.; focal distance, 30 cm. Most frequently 25 percent of the skin erythema dose was given to each area involved at the one treatment.

While most cases reacted well on the first treatment, several received two or more subsequent treatments before complete relief was attained.

### Ultraviolet Irradiation and Blood Regeneration

Recent experiments in the School of Medicine, at Tulane University, in New Orleans, have demonstrated that, in animals rendered anemic by measured hemorrhages, irradiation with either carbon or mercury arcs results in persistent increases in the number of erythrocytes and reticulocytes, the responses being greater with massive exposures than with smaller doses, repeated more often. More significant, however, is the observation that, contrary to expectation, irradiation did not exert any great influence on hemoglobin regeneration in severe secondary anemia produced by continued bleeding. Potent foods always evoked a hematopoietic response, including an augmentation of hemoglobin. Perhaps this means that irradiation acts on the mechanism for the production of stroma, rather than on that by which hemoglobin is made available. Sunlight and its substitutes cannot replace food in the production of an adequate number of normal red blood cells.—Editorial *J.A.M.A.*, April 25, 1931.

### Electrocoagulation of the Tonsil

In *Arch. Phys. Therap. X-Ray, Radium*, April, 1931, Dr. F. J. Novak, Jr., of Chicago, gives his opinion that electrocoagulation of the tonsil is neither a bloodless nor a painless operation, and cites cases in support of his position.

Although the surgical removal of the tonsil

is not an ideal technic, in that there are inherent in its procedure difficulties and complications, it is, at present, in Dr. Novak's opinion, the best available technic.

The removal of tonsils by diathermy, on the other hand, is not devoid of risks, the proper technic is not easy to learn nor is it always easy to carry out.

A properly-executed surgical tonsillectomy is a neat, swift, complete, workmanlike job, in the ordinary case. Under similar circumstances, diathermic destruction is slower, lacking in the sure precision and control characteristic of good surgery, and there is always the unpredictable factor of the depth of penetration of the heating current. It requires from 3 to 5 sittings to destroy one tonsil.

Because of imperative economic necessity or because of the patient's fear of surgical operation or on account of its risk in some cases, electrocoagulation may be the method of choice; also, for the destruction of small postoperative remnants of tonsil tissue, there is no better method than electrodesiccation. The progressive otolaryngologist will, therefore, use this method in selected cases.

### Safety in Diagnostic and Therapeutic Radiology

There are still a number of dangers (anemia and sterilization, especially), to both radiologists and patients, from excessive irradiation, from continuous necessary exposure to the rays, from electrical shock and from roentgen sickness.

Dr. H. K. Pancoast, of Philadelphia, states in *J.A.M.A.*, May 23, 1931, that three years ago an advisory committee on x-ray and radium protection was formed by appointed representatives from the American Roentgen Ray Society, the Radiological Society of North America, the American College of Radiology, the American manufacturers of apparatus and the United States Bureau of Standards. This Committee has just completed the X-Ray Safety Regulations, which will be published in a short time as a Bureau of Standards circular by the Joint Committee. Even though so published, the regulations cannot be compulsory but must be offered as recommendations.

If the x-ray protection recommendations are carefully followed, the dangers from accidents will be decidedly reduced. There remain the human element, unusual susceptibility and the impossibility of absolute dependence on perfection of mechanical devices, as occasional sources of accident or untoward effects which cannot be entirely eliminated.

In the same journal, Dr. F. Carter Wood, of New York, gives in detail the precautions which should be observed in x-ray and radium installations, for protection of workers and patients. These include, principally, the lining with lead of all x-ray and radium rooms or booths, including the floor in the direct path of the rays, and the complete screening of tubes and machines. A protective enclosure should surround x-ray tubes, even with low voltage, to within one-half inch of the extremity of the tube. Fluorescent screens demand special protective precautions on the part of the operator. All parts of the patient's body except that being

irradiated should be protected. All persons engaged in radiologic work should have thorough medical examinations at intervals and special vacations. The switching-off arrangements of all high-voltage apparatus should be simple and efficient and subject to constant supervision.

## BOOKS

### Weatherwax: Physics of Radiology

PHYSICS OF RADIOLOGY. By J. L. Weatherwax, M.A., Physicist, Philadelphia General Hospital; Associate in Radiotherapeutic Physics, University of Pennsylvania Graduate School of Medicine. With a foreword by Henry K. Pancoast, M.D., Professor of Roentgenology, University of Pennsylvania. With 126 Illustrations. New York: Paul B. Hoeber, Inc. 1931. Price \$5.00.

This monograph of 236 pages is divided into eight chapters. It begins with an introduction to the elementary physics of electricity and the principles underlying the construction of apparatus for the generation of electric currents to activate the roentgen tube. The advantages and disadvantages of mechanical and valve tube rectification are discussed.

In the second chapter the atomic theory is presented and in the third chapter the chemistry and physical properties of radium and radon are given. Then follows a discussion of the properties of roentgen rays, the determination of quality and the measurement of absorption. The various types of tubes are considered and the technic of the measurement of dose and the distribution in media is described. Tables of equal intensity curves for varying factors illustrate this chapter. Next a careful description of the routine application of roentgen rays in therapy follows, illustrated with anatomic cross section charts.

The sixth chapter is devoted to a discourse on the biologic effects of radiations and the determination of the total dose in "r" units, followed by valuable tables on the use of the saturation method of roentgen-ray therapy. The following chapter deals with the practical application of radium and radon in tubes, packs and seeds and is profusely illustrated with equal intensity curves and dosage tables for various sizes and forms of applicators. Tables for the graphic recording of roentgen and radium doses are supplied.

The final chapter deals briefly with the principles of making roentgenograms. Tables are appended on the rate of radiation for radon, the cumulative degree value of one millicurie of radon as it decays, and the common logarithms of numbers.

The book is a clear exposition of the basic sciences of radiations and their application in disease. The physician and surgeon who intends to use radiation therapy should familiarize himself with these facts. Only then can he apply radiations correctly and scientifically and avoid the many undesirable results and pitfalls too frequently seen in this field of contemporary medicine.

H. S.

## NEWS NOTES



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### Gigantic X-Ray Film

The largest x-ray film ever made of any subject was recently produced, after a long series of experiments extending over several years, by Miss Ann Reginalda Bolan, head of the roentgenology department of the Field Museum, Chicago. It is a roentgenogram of an entire mummy, on a single film two feet by seven. Heretofore the films for such studies have been made in sections and pieced together.

The picture shows Miss Bolan standing beside her subject and holding the huge film.

### Faraday and Electricity

In commemoration of the centenary of the discovery of electro-magnetic induction, the September, 1931, issue of the *British Journal of Physical Medicine* is a Faraday and electricity number, in which the theory and practice of all the various methods of using this enormously important physical agency in medicine are helpfully discussed.

# THE • SEMINAR

CONDUCTED BY

MAX THOREK, M.D., (Surgery)  
GEORGE B. LAKE, M.D. (Medicine, Ethics and Economics)

[NOTE: Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussion of any or all problems submitted. Discussions should reach this office not later than the 1st of the month following the appearance of the problem.

Address all communications intended for this department to The Seminar, care CLINICAL MEDICINE AND SURGERY, North Chicago, Ill.]

## PROBLEM NO. 9 (MEDICAL)

Presented by Dr. Theo. H. Maday,  
Chicago

(SEE CLIN. MED. AND SURG., SEPT.,  
1931, p. 658)

**Recapitulation:** A well-nourished, but not obese, woman of 56 years began complaining, two months before consulting her physician, of nausea, coming on independent of food, with vomiting of bitter, greenish material; and dull (sometimes cramplike) pain in the right hypochondrium, radiating to the right shoulder. Sixteen years earlier she was very ill and was jaundiced.

She now has no fever nor icterus and her physical examination is essentially featureless, except for moderate constipation; grayish stools; and a roentgenologic finding of depression of the duodenal cap in the region of the gall-bladder, with non-visualization of that organ by the Graham test.

**Roentgenologic Diagnosis:** Chronic cholecystitis; adhesions; duodenal stenosis. Operation refused.

**Requirement:** Discuss the medical treatment and prognosis.

## DISCUSSION BY

DR. E. C. JUNGER, SOLDIER, IA.

I fear that medical treatment in this case is about 20 years too late. That is the weak spot in present-day medicine. We will be forced into practicing preventive

medicine, or we will fall by the wayside.

This woman seems to have had a chronic toxemia for many years, and the liver, in its effort to throw off the toxins, has flooded the gall-bladder with irritating substances until that viscus has lost its power of resistance, so that a chronic, low-grade inflammatory process has become established, which causes all the disturbances of digestion and other symptoms recorded.

Surgical drainage of the gall-bladder or its removal being refused, this patient should be placed on a diet of milk and fruit, with plenty of water, and given an enteric-coated tablet of magnesium sulphate every hour or two for several doses, to encourage drainage into the duodenum. Treatment with diathermy is also indicated.

A restricted diet, with plenty of exercise and stimulation of all of the emunctories will ameliorate this patient's condition considerably.

We must teach this woman—and millions more like her, especially the school children—the fallacy of wrong living habits. It is pathetic to realize how we sit idly by and wait for disease insidiously to overtake our patients, before we feel justified in utilizing our talents to repair damage which we should have prevented.

DISCUSSION BY DR. ROBERT L. EMERY,  
WINCHESTER, MASS.

Evidently the diagnosis of this case is



cholecystitis, as the clinical picture is quite true to form and we find, in our hospital, the x-ray diagnosis to be correct in better than 90 percent of cases.

The patient was wise to refuse operation. With symptoms of only two months standing, she has a 75 percent chance of bringing about a normal condition without an operation. There may and there may not be adhesions to the duodenum. If there are, the stenosis or constriction may be relieved when the congestion is cleared up. Should stones be present, which did not show in the x-ray films, those will also be dissolved when the bile and lining of the gall-bladder returns to normal condition.

**Treatment:** For a month or two, the patient should be, as nearly as possible, on a fat-free diet, with plenty of fresh vegetables and some meat; sweets also should be greatly restricted.

Nothing was said as to the condition of the rest of the alimentary tract, but we will assume that this infection of the gall-bladder came from the very prevalent infection of the intestines, in which condition we have found a great deal of mucus coming with the stools; intermittent pain and distension of gas in the abdomen; sometimes constipation and sometimes small, semiformal movements, with hemorrhoids, bleeding and fissures about the rectum.

Elimination of the invading infection is the result we want. Cathartics, in my hands, have not been successful, as they seem to irritate the intestinal tract; but high enemas of 2 teaspoonfuls each of sodium chloride and sodium bicarbonate in one quart of warm water, every day for a week or more, and then according to conditions, have worked well.

**Medication:** Mercurius, 1/1000 of a grain every three hours, will aid nature in restoring all the mucous surfaces to normal and get rid of the invading germ. A dose of nux vomica three times a day, before meals, will assist the action of the bowels and stir up the innervation. Later, after two months of this treatment, give cinchona officinalis, 1:1000 dilution, 3 drops t.i.d. for a year, in order to get the bile into a healthy and normal condition. If in the meantime gall-stones are present, they will probably become dissolved, as gall-stones cannot exist in a healthy gall-bladder.

#### DISCUSSION BY DR. J. S. LANKFORD, SAN ANTONIO, TEX.

The x-ray diagnosis is probably correct, but discussion of the treatment and prognosis of the case would be much easier if we knew more of the history of the patient and had further information about the present condition.

Almost certainly there has been, at some time in the past, a duodenal ulcer, penetrating the wall of the bowel and extending to the gall-bladder region, resulting in adhesions. This condition is nearly always preceded or attended by focal infection, especially from the mouth, and by calcium deficiency. The former might lead to ulceration and the latter to much gaseous disturbance, indigestion, dull knee reflexes and a disposition toward sighing respiration, with general impaired health. Has this condition prevailed in the past? Or does it still exist? Again, is there now much tympanitic distention of the colon or other indication of ptosis and stasis, leading to autotoxemia and overtaxing the detoxicating function of the liver? These two points especially are important in the history and in the present condition. The grayish stools are far more important than the chronic cholecystitis. Of the many functions of the liver, certainly the bile-secreting function is greatly impaired.

The purpose of treatment in the case should be twofold; first to stimulate the secretion of normal bile, the natural intestinal antiseptic and aid to digestion. This can best be done by giving, during alternate weeks, a 1/5 grain (13 mgm.) tablet of calomel at bed time, and 10 to 20 grains (0.65 to 1.3 Gm.) of sodium thiosulphate, in a glass of water, at the bed hour. A gentle morning laxative might be given, if necessary.

The other important point is to take the strain off of the liver function as much as possible, by low-protein and moderate-carbohydrate diet, for carbohydrate excesses will also burden the liver. The main point is to prevent the formation of gases, which pull down the adhesions and cause pain and reflex attacks of vomiting, with apprehension of worse things. The best treatment to prevent the formation of gases is a 1/10 grain (64 mgm.) parathyroid tablet, keratin coated, before meals, which stimulates all the functions, and one 10-grain tablet of calcium gluconate after meals, which aids digestion, prevents for-

mation of gases and has a tendency to stabilize the leukocytes in the fight against disease. Gentle bathing of the painful parts with iodine-petrogen for five minutes at bed time will add much to the comfort of the patient.

To ease the burden of the liver, improve calcium metabolism and prevent the formation of gases, the diet should be much like that for ulcer of the duodenum: An abundance of good fresh milk, with cream up to the amount of half a pint a day; beaten eggs, two to four a day, or taken in other ways; a reasonable amount of butter; Cream of Wheat; thoroughly cooked oatmeal; puffed rice; and Jello. Some citrus fruit juices may be permitted. A strip or two of crisp bacon might be allowed two or three times a week. A very small steak is permissible occasionally, or a mutton chop. Soft, fresh, calcium-bearing vegetables should be included; perhaps a baked potato with butter will be well borne. Gradually the diet might be more varied and changed from liquid to semi-solid, and then some solids added.

With the passing of time, the lumen of the bowel will have a tendency to increase rather than contract, under the proper line of treatment.

The prognosis is not so bad. With proper attention to the endocrine and other functions, the right diet, temperance in all things, a good mental outlook and some little outdoor life, fearlessly enjoyed, there is no reason why the prognosis should not be good. It should cheer the lady very much, since she declines operation, to know that there are now twenty-nine Mayo surgeons suffering with duodenal ulcer, going on with their active duties, refusing operation. They just eat and live correctly and all are getting along rather happily. Another piece of information might be still more comforting; that is that in one group of fourteen thousand varied cases of disease of the duodenum, mostly ulcer, recently studied at the Mayo Clinic, not one developed cancer. This should be enough to change her psychology and keep her happy for a while.

CLOSING DISCUSSION BY DR. GEO. B.  
LAKE, CHICAGO

The diagnosis given in the problem seems soundly based.

The indications, in general, are: reduction of the congestion and inflammation in the region of the gall-bladder and its ducts

and the duodenum; the correction of any errors in body chemistry or metabolism which may be present (no report of chemical analysis of the gastric secretions is presented); securing free and regular bowel action; and restoration of the normal activities of the liver and its appurtenances.

For the first purpose, few, if any, agencies at our disposal are so potent as is the proper application of diathermy, treatments being given, according to the indications in the specific case, until results are obtained.

The second indication is partly met and the diathermy treatment reenforced, if the patient will live a reasonably normal life, by taking plenty of exercise and drinking plenty of water. The diet should be light to moderate, with restriction (possibly total elimination for a time) of fats, a marked diminution of carbohydrates and an increase in the amount of fruits and green vegetables, if these are well tolerated. Any marked alteration in the body fluids should be temporarily corrected by appropriate medication.

The two last-named indications can be considered together, for measures that will stimulate the production and flow of bile, will help to regulate the bowels.

Mercury (especially calomel) has long had a reputation as a cholagogue, which seems, on empiric grounds at least, to be deserved. Ox bile or bile salts are known to be helpful. Salicylates are said to increase the fluidity of the bile, when it is viscid. A report of a study of the bile, as obtained through a duodenal tube, would have been helpful here.

It would probably be well to begin the treatment of such a case with 2 or 3 grains (0.12 to 0.2 Gm.) of calomel, in divided doses, followed after a few hours by an adequate dose of magnesium sulphate,\* given in hot solution. After that, it would be well to give, each night, one or two pills containing bile or bile salts, with or without pancreatic extracts, and, possibly, for a time at least, some other laxative. Of these, Pancrobilin (with or without aloin) and calomel, 1/6 grain (10 mgm.); podophyllin, 1/6 grain (10 mgm.); bilein, 1/8 grain (8 mgm.); and strychnine arsenate, 1/250 grain (0.2 mgm.) are good examples.

In treating cases like this, hearty and

\*Saline laxative, effervescent (Abbott) is an excellent preparation of magnesium sulphate.—Ed.

sincere cooperation by the patient is absolutely necessary; and both physician and patient must be prepared for a long course of treatment and for a reorganization of the sufferer's mode of life. Dr. Lankford's suggestions are especially timely and helpful.

#### SOLUTION BY DR. MADAY

Upon closer and more extended study of this case it was decided that, in addition to cholecystitis, erosion or possibly ulceration, at the duodenal outlet of the common bile duct, was present. Perihepatitis developed subsequently.

*Treatment:* All symptoms were relieved by the application of medical diathermy to the region of the liver, gall-bladder and duodenum; a fat-free diet; the administration, daily, of 5 of Sippy's powders, number one (10 grains—0.65 Gm.—each of sodium bicarbonate and heavy magnesia) and of one Pancrobilin pill at bedtime.

The patient's condition is now satisfactory.

#### PROBLEM NO. 11 (Medical)

SUBMITTED BY DR. H. A. CANFIELD,  
BRADFORD, PA.

The patient is a male, aged 51 years; single; height, 5 feet, 10 inches; weight, 126 pounds; slender and erect; occupation (for past 30 years), postal clerk.

*Personal History.*—He had rheumatism at two and at twenty years of age, but

there have been no direct or secondary symptoms since. In March, 1930, he was overcome by carbon monoxide and was unconscious for more than three hours, but apparently recovered entirely and returned to work in one week. He uses no alcohol or tobacco.

*Family History.*—He comes of a healthy and long-lived family; mother and father living and well, at 70 and 79 years, respectively; one brother living and well at 49.

*Present Complaint.*—I first saw the patient early in July, 1931, when he complained of confusion, dizziness, inaccuracy in his mail-sorting and tremors of the hands and body, with lack of confidence in himself and fears for his financial future. These symptoms began shortly before he came to consult me. The physical symptoms are present only at times, between which he is entirely free from them. He sleeps well.

*Physical Examination.*—There are no physical signs of disease. His heart, lungs, stomach, kidneys and bowels all function normally; his nerve reflexes show no notable alteration and his pupils respond to light and accommodation; his blood pressure is 124/90; the laboratory reports that his blood and urine are entirely normal; the Wassermann test is negative.

*Requirement.*—Suggest diagnosis and treatment.

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### BIRTH CONTROL OR WAR?

*Present controversy over the subject of population control is largely due to a misunderstanding of the issue involved. The assumption seems to be that it is a question as to whether there should be or should not be population control. This is clearly a mistaken notion, for there always has been, and is now, among all peoples, such limitation of population. It is purely a question of what method or technic should be employed. Here we are confronted with two principal alternatives. Either we must control population by the humane and scientific methods of modern birth control, or the same result will be achieved by the barbarous methods of war, pestilence, famine, abortion and infanticide. This is the real and only issue. If the present opponents of the birth control movement are compelled to face this issue, few would have the temerity to argue for the second alternative. It avails nothing to sidetrack the issue by arguing for ideal solutions which are based on the assumption that man is a different type of being than he is. We must deal with the question on the basis of man as he exists and as he has existed throughout the ages.*—GEORGE A. LUNDBERG, University of Pittsburgh, in *Birth Control Review*, May, 1931.

# THE · CLINIC

## PROGNOSIS

### Prognosis in Bronchial Asthma (A Clinical Contrast)

By Burton Haseltine, M.D., F.A.C.S., Chicago

**I**N THE whole field of clinical medicine there is no more striking contrast than that between the gloom and pessimism regarding asthma, as treated by prevailing methods, and the optimism of those who have learned that effective methods are available. In England, the best-known authority on asthma has recently stated that the only way to cure asthma is not to have it. In America, where allergic treatment has been exploited as nowhere else, we have Rackemann, in his latest textbook, warning us that it is practically impossible in any asthma case to predict with any confidence whether or not relief may be obtained.

It is deplorable that such expressions as these should be so widely accepted as conclusive, when it is a fact that, by methods now available, any group of clinicians can predict and obtain marked and lasting relief in nearly all asthma cases. To do this, no radical reorganization of the usual clinic group is necessary, but certain modifications are absolutely required: First is the unloading of most of the therapeutic lumber now being carried in stock; second is the making of a few additions to laboratory technic dealing with the basic factor in asthma; third is some refinement in rhinologic diagnosis and treatment, for dealing with the nasal factor in asthma. Even with all refinements of diagnostic study, unless there is an understanding of the essential factors producing bronchospasm, the situation is hopeless. I present herewith a case

history in which all these points are illustrated in a striking manner:

Miss X, aged 18, consulted me June 1, 1930, with a history of asthmatic attacks, increasing in frequency and severity for seven years. Efforts to obtain relief had been continuous and unsuccessful, although all customary treatments, including residence in southern California, had been tried. Before consulting me she had been exhaustively studied in one of the finest diagnostic clinics in America and we were fortunate in having a most complete documentation of their findings. Following is their complete summary of the case:

"We have completed our examination of your patient, Miss X. She was examined by our entire staff, the examination including complete laboratory and x-ray studies.

"DIAGNOSIS: (1) *Bronchial asthma*; (2) *deflected septum*; (3) *periapical dental infection*.

"Discussion: This patient presents the typical clinical history and physical findings of a true bronchial asthma. We regret to say, however, that we have been unable to locate any definite etiologic factor. She has received equally thorough studies in the hands of other physicians in the past and, according to her understanding, these tests likewise have been repeatedly negative. The only slight abnormality we find is a markedly deflected septum, which is constantly impinging upon the ethmoid. This might be acting as a focus for irritation, although the possibility of its being

a basic etiologic factor in her asthma is rather remote. One infection about the root of a tooth was likewise discovered. This almost certainly has no bearing on her asthma yet, as a matter of general health, it should certainly be cleaned out. The lower left first molar shows periapical rarefaction, and there is also one devitalized tooth which is open to suspicion.

"Otherwise our examinations were all negative. Blood count, serologic tests and urine examinations were negative. Basal metabolism was plus 12 percent, which is a little above the usual normal, but not sufficiently so to be of any clinical significance. It does, however, contraindicate any further use of thyroid extract at the present time. The stool examination was entirely negative, there being no eggs, parasites nor blood. Gastric analysis showed a normal acidity and no blood, lactic acid nor bile. The sputum showed some streptococci, staphylococci and gram-negative bacilli, all undoubtedly saprophytic in nature. Temperature observations made in the clinic did not reveal any rise above normal. X-rays studies of the sinuses showed them to be all clear, and direct examination did not show any suspicion of sinusitis. Roentgenograms of the mastoid cells showed them to be normal on both sides; and those of the chest showed a good deal of bronchial thickening at the right base and many calcified nodules around the right hilus; otherwise the lungs are normal. Special examination of the chest did not reveal any physical signs of any significance. The general physical condition of this patient was essentially normal. Special studies of this patient's reaction to various dust, foods and other proteins were likewise consistently negative throughout.

"Briefly, therefore, this patient presents a definite case of true bronchial asthma, rather severe in degree, but failed to reveal any abnormality, with the exception of a marked deflection of the septum and one abscessed tooth. Neither of these could be considered as a very likely primary cause for her asthma, and yet they are sufficiently suspicious to warrant their correction. All other attempts to locate any causative factor have been entirely negative.

"Treatment: We would advise, as the beginning of treatment, that this patient's deflected septum be corrected. It is surprising, in some cases, what a small amount of

nasal irritation will give rise to bronchial asthma and, although we doubt very much if correction of this septum will give rise to a cure, yet one can not be certain and we strongly advise that this be done. Also, we advise that the infected tooth be extracted.

"Following this, her treatment must, as far as our examination has shown, be entirely palliative in character. We recommend a number of drugs to be used, in the attempt to lessen or actually ward off the attacks, all this being done in the hope that she will eventually overcome her sensitiveness and get her health back. We would first advise the use of iodides in rather large doses, by mouth. We would suggest that she be given from 60 to 150 grains of potassium or sodium iodide each twenty-four hours until she has obtained complete relief from her asthma. If this relief occurs, then the dose could be diminished to from 30 to 60 grains each twenty-four hours and kept up as long as no signs of iodism appear. It is very likely that she will exhibit a marked tolerance for iodides in view of the character of her asthma. If the iodides fail to give relief, then we would suggest the use of some of the inhalants, such as the various lobelin powders, which are burned, or some of the various liquid preparations which are to be used in atomizers and inhaled. These preparations often give very marked temporary relief from the asthma and, if used repeatedly, will, in some instances, bring about such marked relief that the patient's general physical stamina can be built up and she would thus stand a better chance of throwing off the condition. She is still in her formative period and anything that can be done to bring about even temporary relief from the asthma, and thus aid her in building up her physical resistance, will be of use in her eventually overcoming the asthma. Adrenalin and ephedrine have already been tried, but we would recommend that, for the more acute phases of her asthma, either the adrenalin or the ephedrine be continued, in order to ward off the severe attacks and bring about as much relief as possible.

"By thus using the various drugs, such as iodides, inhalants, ephedrine, adrenalin, etc., to keep the asthmatic attacks as mild as possible and at the same time by giving her plenty of fresh air, exercise and nourishing food, in the attempt to build up her



physical resistance, it is quite possible that this patient will eventually outgrow her asthma and remain in perfect health for the rest of her life. Also the straightening of the septum and the removal of the infected tooth may give much better results than we dare hope for.

*"Prognosis:* The prognosis in this case is rather doubtful at the present time although we feel if the patient can be kept more or less from her attacks and her general physical resistance increased that she will eventually outgrow her asthma."

Contrast this gloomy picture with the summary and prognosis made possible by a correct understanding of the asthma problem. Following is our report to the referring physician, after a complete study of the patient:

"Dear Doctor:

"We have completed our examination of your patient, Miss X., and have carefully studied the very exhaustive report of the examinations to which she has been subjected at the Diagnostic Clinic. The completeness and excellence of this report, we feel, enables us to dispense with the major part of the diagnostic study, which we would otherwise be compelled to make in such a case. In the field of general medicine we have only supplemented this report by the examinations necessary to bring our information up to date and by a few tests having a bearing upon the basic factor in asthma, which are apparently not known to previous examiners. These are shown by Doctor La Forge's report, which is enclosed.

"In the reports of the rhinologic study of this case, we find the same inadequacy still shown by a deplorable number of otherwise-qualified rhinologists. This is a failure to recognize other than the most obvious and gross abnormality, along with only the vaguest notions of the relation between nasal lesions and bronchospasm.

"In this instance this inadequacy was vital, because the etiologic factors of the asthma in this patient are almost exclusively nasal and proper attention to them would have relieved her long ago. An asthma-trained rhinologist recognizes a typical history in this case. She had no allergic manifestations in childhood nor at any other time, the allergic studies in her case being a needlessly wasted effort. She had a clear case of tonsil and adenoid hypertrophy, which was not corrected un-

til it had produced septal deformity, ethmoid hyperplasia and bronchospasm with, of course, some degree of impairment in general vitality. The surgical removal of the tonsils and adenoids was followed by an exceptionally long period of remission of bronchospasm but, as nothing further was done, recurrence was certain, following the first exacerbation called a "head cold." The patient's observation on this point is typical and of the highest significance.

"With the exception of the rhinologic report, I think we can accept the findings from these previous examinations as entirely correct. But the conclusions drawn from them are quite erroneous and the medical treatment advised is worse than useless, especially the iodization, which is positively harmful in such a case.

"The essential lesion in this patient is a chronic, hyperplastic bilateral ethmoiditis. There is moderately extensive polypoid degeneration of the posterior ethmoid structures with numerous small polyps in the superior sulcus of each side. The nasal septum is badly deformed and its correction is an essential first step. This is to be followed by an intensive course of non-surgical treatment, consisting, in its rhinologic factors, chiefly, of repeated and systematic tamponage of the nasal cavities, according to a modification of the method described by Dr. J. I. Dowling. No radical ethmoid surgery is advised unless, at some future time, there is evidence of extensive degeneration within the labyrinth.

*"Prognosis:* An early amelioration of the bronchospasm may be expected, with complete relief as the nose is restored to normal, and not recurring unless there is increasing polyposis from subsequent neglect. If this does occur, relief can again be obtained by proper measures. For protection against recurrence, the patient should be inspected, at yearly or half-yearly intervals, by a rhinologist familiar with this work.

"The slight disturbance in her general physiologic condition will, I believe, disappear with the establishment of normal nasal ventilation and drainage."

Following this prognosis, made in June, 1930, the patient accepted the outlined program of treatment and has since remained free from bronchospasm, without any medication whatsoever.

(Continued on page 831)

## CLINICAL · NOTES AND PRACTICAL · SUGGESTIONS

### Metaphen in the Treatment of Vincent's Angina

ONE of the most stubborn infections of the mouth and throat which the nose and throat man or the dentist is called upon to treat is "trench mouth," or Vincent's angina (or stomatitis). Harrell, in the *Archives of Otolaryngology* for July, 1931, terms it the "Plaut-Vincent infection," thus giving credit due the first man who wrote an exhaustive description of the condition.

One of the important factors in the successful treatment of Vincent's angina is early diagnosis. This can be made accurately only by means of a microscopic examination of a smear from the infected region. It must be remembered that the organisms lie protected by membrane, and it is very difficult to get a smear showing the spirillum and bacillus direct from the mucous membrane. Occasionally a vigorous scraping of the edges of the ulcerous areas will show the organisms. The most likely place to find them, however, is just under the gingival line around the back teeth, or better, between the two back teeth on either side.

No treatment of Vincent's angina is likely to be successful unless the teeth and throat are treated at the same time. All cases should be under the care of a physician and a dentist, for even though the throat symptoms may subside, there is danger of reinfection from the pockets between and the gum-line around the teeth.

One looks askance at the list of drugs in the literature for the treatment of Vin-

cent's angina. The first reaction is that the efficiency of all is doubtful, and it is with some trepidation that another treatment is described. Only the excellent results obtained by treating this infection with Metaphen and the method I have used urges me to make this note of the fact.

The preparation used is the stock Metaphen solution, 1:500. Placed in the ordinary DeVilbiss nasal or dental atomizer, it is sprayed *forcibly* all over the mouth and throat, with particular attention to any ulcerous areas. In addition, the spaces between the teeth, above and below, inside and out, are forcibly sprayed. This latter spraying is rather important, especially in cases with gingival involvement, for the use of a toothbrush is too painful and the spray keeps these interdental spaces clean. The patient is given a 1:1000 solution of Metaphen for home use, which he uses, preferably in an atomizer, but may use as a gargle.

The success of the treatment depends, to my mind, on the careful, forcible sprayings, which are done at the office twice daily during the active stage of the infection. In addition, all ulcers are treated with a 10 to 20 percent silver nitrate solution, to remove sloughing tissue and keep them clean.

The last ten cases of Vincent's angina I have treated included the following: One (1) case with at least half of each tonsil necrotic; 1 case with half of one tonsil necrotic; 1 case with an ulcer perforating

the soft palate and 1 with a very severe necrotic involvement of the gingivae. None of these cases was given the neoarsphenamine nor bismuth injections, which they would have received in the course of treatment a few months ago. All experienced relief after the first spray of Metaphen, which seems to have some astringent and analgesic action, as well as being a powerful antiseptic, and all progressed to recovery in a much shorter time than it has been my custom to see in cases of the same relative severity under other methods of treatment.

Treating the gums or ulcers with freshly-prepared neoarsphenamine in glycerin, or with any other solution that has to be applied with a swab, is a sheer waste of time and material. The forcible spraying of the Metaphen solution removes the mucus from the infected areas and permits its application directly to the membrane.

It might be well to explain one point to the patient: The solution will cause a brownish deposit on the teeth, but this is easily removed by the dentist after the treatment is completed.

In conclusion, I feel that Metaphen has given me more satisfaction in the treatment of Vincent's angina than has anything else I have used during the past ten years.

WILLIAM G. SYMON, M.D.,  
Garrett, Ind.

### How to Prevent Athlete's Foot

**R**EQUIRING each individual who uses a swimming pool or shower bath to stand for one-quarter of a minute with bare feet in a solution of one-percent sodium hypochlorite prevents the spread of ringworm of the feet, or athlete's foot, as this disease is popularly called. This method of control proved satisfactory and effective last year among the school population of Buffalo, where it was put into practice by the authorities in charge of health and physical training activities.

Flat pans about 3 inches deep and two feet square, placed at convenient locations, were used as containers for the solution in Buffalo. It was reported that not a single new case of ringworm occurred among those in Buffalo who used this solution as a foot wash, as described.

The Detroit city health department reports that a 0.6-percent solution of sodium

hypochlorite, used as a foot bath at frequent intervals, gave good results as a prophylaxis among school children in that municipality.

Prevalence of ringworm of the feet is quite common. At least one-half of all adults suffer from it at some time, according to an estimate by the U. S. Public Health Service. It has been found in one-third of the people in various groups, such as college and school populations, armies, etc. It is spread chiefly through the use of swimming pools, gymnasiums, lockers, showers, bathrooms, etc. — *Illinois Health Messenger*, Oct., 1931.

### Malarial Hemoglobinuria (Blackwater Fever)

**I**N THIS country, cases of blackwater fever are fairly frequent. I saw one case in May, 1931, a woman 25 years of age. On the first day, her temperature was 104° F.; urine dark; she was much frightened, as some one of her relatives had died of blackwater fever. She was perfectly conscious and her condition was in no way bad.

In the evening her temperature was 101° and she had passed urine four or five times. Next day she began to turn yellow and about midday the jaundice of the face could be seen at a distance. Even at this time she was perfectly conscious, but was saying frequently, to her husband, that if she did not recover, he should take proper care of the children.

I gave her, intravenously, 300 cc. of a 4-percent solution of sodium bicarbonate, immediately followed by 180 cc. of 15-percent dextrose. One-half hour after the injection was completed, she began to feel oppression, sat up in bed saying she was passing, and became unconscious. Respiration was rapid and shallow; pulse quick and of low tension; temperature was not taken. I gave 1 cc. of pituitrin, hypodermically. The pulse improved slightly, but there was no change in her condition. Respiration became more rapid and shallow and at times looked like the Cheyne-Stokes type. The patient expired 2½ hours after the injection was given.

I had given the injections of sodium bicarbonate and dextrose before, to some patients. One patient felt as if he was about to have convulsions, but was normal in about forty minutes. Another patient

felt perspiration all over his body when the injection was being given. In a case of profound acidosis (the patient was quite unconscious, with his mouth closed, as if in an epileptic fit), I had to give the bicarbonate and dextrose solutions intravenously, under bad aseptic conditions, about 60 miles from Kampala. In ten minutes after starting to give the injection, the patient asked for water. By the time the injection was finished, he was quite conscious. There was no reaction.

I should like to know your opinion in this matter, especially on the following points:—

1.—What killed the first patient? (I think she died of shock on account of fear).

2.—Is it possible that she died of acute dilatation of the right heart? If so, how can that be prevented or treated, and what are the signs suggestive of its onset?

3.—When acidosis is marked, the only way to save the patient is to give sodium bicarbonate and dextrose intravenously, but one must hesitate when such reactions occur — sometimes trifling and at other times fatal. What should be done to prevent them?

4.—Are there any preparations which prevent acidosis, cause diuresis, and are pleasant to take?

5.—Is there any preparation which does not contain quinine, but will lower the temperature and kill malarial parasites in blackwater fever? (I find that quinine does harm).

6.—What percentage solutions of sodium bicarbonate and dextrose can be used for subcutaneous, intravenous and rectal infusion? At what temperature?

C. J. PATEL, M.D.

Kampala, Uganda, Africa

[This patient probably died of heart failure, as cardiovascular weakness is very common in this condition.

Weakness of the heart and blood vessels, in blackwater fever, can be prevented only by preventing that condition from developing, by giving all malaria patients regular and sufficient doses of quinine, probably well combined with Plasmochin, from the time a diagnosis is made until they are definitely considered cured, and probably for some weeks after that.

Every patient with a definite diagnosis of malarial hematuria (blackwater fever)

should be kept at *absolute rest in bed*, using a bedpan and urinal for excretions and giving food through a tube, so that even the head and shoulders need not be raised off the pillow. This will spare the heart all unnecessary strain. If symptoms of cardiac weakness appear, strychnine or digitalis, in carefully regulated dosage, may tide the patient over a critical period.

These patients are frequently very restless and, if necessary, should be kept quiet by administering sedatives such as the barbiturates (Neonal or Nembutal are probably best, but barbitol or phenobarbital may be used if these are not available), or by bromides, given by rectum if the stomach is disturbed.

It would appear that Dr. Patel has regarded as reactions, symptoms which are due to the disease and not to the medications, and he need feel no hesitation about continuing the treatments with dextrose (glucose) and sodium bicarbonate. The main point in avoiding uncomfortable symptoms is to give all intravenous medications *slowly* and as near the body temperature as the nature of the medication and other circumstances will permit.

Perhaps the most valuable and certainly the most palatable and readily available preparations for the prevention of acidosis and the promotion of diuresis are the fruit juices and fruit ades—orange juice or ade, or lime or lemonade, sweetened with plenty of glucose and diluted with large quantities of water. If the patient can take several quarts of fairly strong, glucose-sweetened lemonade each day, it will greatly reduce the difficulties with the kidneys.

Many authorities seem to feel that quinine has little or no relation to blackwater fever and that it may be given safely. If one is convinced that quinine has a bad effect, one might try giving moderate, intravenous doses of neocarsphenamine (0.45 to 0.6 Gram, once or twice a week). Good results are sometimes obtained from the use of the old-fashioned Warburg's tincture, which, however, is a horrible-tasting mess and cannot be given to patients with delicate stomachs.

Sodium bicarbonate is needed and should be used only in case of emergency, when the patient's alkaline reserve is dangerously diminished. The condition of acidosis is often largely due to carbohydrate starvation and, in the milder cases, is controlled

by the intravenous use of dextrose. If insulin is available, the effect of the dextrose may be greatly accelerated by administering, at the same time or just afterward, one unit of insulin for each four or five grams of dextrose.

The proper strength for the sodium bicarbonate solution is nearly concentrated; that is, about  $7\frac{1}{2}$  percent, and of this solution from 20 to 50 cc. may be given. Solutions of sodium bicarbonate must not be sterilized by heat, as carbon dioxide is given off, leaving the dangerously alkaline sodium carbonate in the solution (this, by the way, may possibly have been the cause of some of the troubles). It is much easier and more satisfactory to purchase sodium bicarbonate solution in ampules which are ready for injection.

If it is necessary to make up one's own sodium bicarbonate solution, weigh out carefully the proper amount of a clean specimen of the drug in a sterilized watch glass and dissolve it in the proper quantity of thoroughly sterilized water, injecting the solution at once. Sodium bicarbonate and dextrose should always be given intravenously, never subcutaneously or intramuscularly. They may, of course, be given in almost any strength of solution by mouth or by rectum.

Dextrose is generally given in a 50-percent solution, in quantities anywhere from 5 to 100 cc., as may be needed.—Ep.]

### The Proof of Survival

**A** CORRESPONDENT invites us to answer the question: "What would you consider to be proof of life after death?"

It has always seemed to us that an ultimate assurance of the continuity of being and the real evidence for survival must be sought in the subjective or mental field and the phenomena of consciousness, rather than in the domain of physical mediumship. Fundamentally the search is for evidence of the survival of mind, memory and personality. Wherever evidence is presented of a personal knowledge of facts utterly beyond the scope of thought-transference, subconscious recollection, or other recognized normal causes, there is good evidence for the discriminating mind of the searcher. In its cumulative aspect, such evidence will constitute proof.

And the burden of proof is not infinite,

but finite; for LaPlace long ago laid down the simple principle that the amount of evidence needed to convince us of a given event is proportional to the *a priori* unlikelihood of its occurrence; adding that, since no event is infinitely unlikely, no phenomenon requires an infinite quantity of proof.

There comes, then, a time at which the student of psychic phenomena of a certain type will either be ready to affirm that he is satisfied, or will finally be prepared to abandon all conviction. The danger is that the analytical habit of mind may, unless qualified by the synthetic, produce that lamentable state in which no conviction is possible, whatever the evidence offered.—Editorial in *Psychic Research*, September, 1931.

### Gonorrheal Urethritis

**T**HE virulence of the Neisser organism varies widely. Some acute cases may aptly be called "pernicious," on account of the severity of the initial symptoms, the proneness to complications and the undue length of time necessary for recovery.

In these "pernicious" types the disease is ushered in with profuse discharge, much pain on micturition, edema of the prepuce and, as a result of some mistreatment, a severe epididymitis frequently follows.

In contradistinction to the "pernicious" type is the mild or weak form. In these, apparently, the infecting organism has lain dormant for a long period and its virulence has become much attenuated. The invading cocci are readily killed with Metaphen 1:4000, no complications result and all signs of the disease disappear in about three weeks.

The microscope must be used to make a differential diagnosis between simple urethritis, gonorrheal urethritis, prostaticorrhea and spermatorrhea, and to determine when the gonococci have disappeared from the smears.

In France, during the War, men were sent to the venereal hospital with a diagnosis of gonorrhea, made by casual inspection, and later released when a microscopic examination of the discharge showed them to have spermatorrhea. A non-specific urethritis may result from contamination of the lips of the vulva with feces, following defecation.

The intramuscular injection of two ampules of manganese butyrate, four days apart, at the onset of gonorrhea, appears



to shorten the duration of the infection considerably. Injections of Metaphen, 1:4000, into the urethra, are instituted at the onset, giving four a day, using a quarter-ounce glass piston syringe. The patient must be very particular to void before injections. The solution must be injected with one movement of the piston and retained in the urethra under pressure, so that the antiseptic will reach all parts of the anterior urethra. It is allowed to remain for one minute at first, and later two minutes.

In a week or ten days—often sooner—the gonococci cannot be found in the smears. After about three weeks' use of the Metaphen, an astringent solution is used, to remove the last traces of the inflammation, but this is often unnecessary, as the Metaphen itself will clear up the infection.

Some chronic cases have come for treatment after having used a silver protein injection for many months, and the gonococci have been found still present in the discharge.

Sodium iodide, 15 grains (1.0 Gm.) intravenously, remains the best treatment for acute epididymitis. Four doses are given, at 48-hour intervals. The patient's temperature falls to normal after the first dose; and after the third, the swelling and pain both disappear. Rarely, a case of the pernicious type fails to respond to sodium iodide, and intravenous injections of 10-percent calcium chloride may be used, in order to get the desired result.

R. STEWART MACARTHUR, M.D.  
Los Angeles, Calif.

### Sodium Iodide in Acute Gonorrheal Epididymitis

**I**N ACUTE gonorrheal epididymitis, prompt abatement of subjective and objective symptoms can be obtained by the intravenous administration of sodium iodide.

The usual procedure is to put the patient as nearly at rest as is possible, suspend or elevate the inflamed organ, and force fluids.

Immediately, upon seeing the patient, give 1.0 Gm. of sodium iodide, dissolved in 10 cc. of sterile water at room temperature, and repeat the dose after twenty-four

hours. It is seldom necessary to give more than two injections, but occasionally a third or fourth injection may be required, on successive days.

DR. H. P. MORGAN.

DR. B. L. ROBERSON.

Wood River, Illinois.

[This method of treatment, while not new, deserves to be called to the attention of physicians repeatedly, as it appears to produce gratifying results in a very distressing malady.

Sterile, fat-free milk, such as Lactigen, given intramuscularly, in doses of 5 to 10 cc. on successive or alternate days, has also been reported to work well in such cases. Diathermy treatments also do good.

Physicians now have no excuse for permitting these unfortunate patients to suffer for a week or two.—ED.]

### Medical Societies\*

**T**HIS month marks the renewal of organization activities. One phase of organization functions is regularity in meetings of the members. Scientific bodies are unique in that there is a multifariousness of duties. County Medical Societies specifically are thus endowed. Duties to state and national societies, to its members, to the public, to distantly and closely related organizations of various kinds, make a Medical Society an active feature in civic affairs.

Then there are many phases of the practice of medicine; the scientific, sociologic, economic, the art of medicine—apparently simple words, but in reality complex problems baffling present leaders in the profession collectively, as much as they do every physician individually. Modern rapid scientific developments, educational improvements, economic uncertainties, accompanied by constantly changing public opinion, are influencing the practice of medicine to the extent that every thinking physician is forced to serious thought. The attitudes and platitudes of the sincere but misguided philanthropists, in an effort to force us into charitable guilds on an uncharitable basis; the quasi-scientific economist with his cry for reduction in medical costs; even the

\*Reprinted from *Bulletin of Omaha-Douglas County Medical Society and Omaha District Dental Society*, of Sept. 22, 1931.

clever dramatist with his cunning remarks, all stand ready to teach and guide us in our erring ways. The blind attempting to lead the seeing!

Some of us sit comfortably, under the impression that this present state of confusion is only a squall. Others adopt an antagonistic attitude to outside interference. The majority feel bewildered, uncertain as to the real meaning of this confusion. The fact is that we are in a period of transition from the old order of things to the new. We are all more or less familiar with the sudden pronounced changes in scientific outlook, but it is rather difficult to follow the rapid changes characteristic of our social order. They are less tangible and more cumulative in their manifestations.

In view of this complexity, there has probably never been a time when the necessity for clear thought, based on equanimity and reflection, was more keenly felt than it is today. Nor has there ever been a period when proper organization of Medicine was more urgent than it is now. The push and force from all sides into our activities are bound to have their effects. Shall we stand together in an organized body, directing these influences to the good of all concerned, or shall we sit in assumed dignity and pretended indifference, allowing the blind to lead us?

### Hygienic Adjustment in Middle Age

**W**HATEVER else may be said of the progressive bodily change in human beings, by the time we reach middle age we realize fully the truth which underlines them all, and which we express in the term "growing old." This process of age is, in all likelihood, very elaborate and complicated, but one of its obvious and important results is the gradual replacement of our body cells by connective tissue—what we might call a sort of scarring process. This means that the body cells undergo a change, perhaps both in quantity and in quality, leaving the tissues and organs which they compose with less vigor and less recuperative power.

When a man begins to reach middle age he, perhaps for the first time, fully appreciates what it means to grow old. This fact becomes evident in his consciousness in ways that he cannot overlook. He begins to notice that his body is no longer capable of doing those things which pre-

viously he could do with ease, and he finds that his habits of life must be changed, if he would maintain physical well-being.

This is, for many, a difficult time of life, and it is a period when readjustments are important. Briefly it means that the individual must realize that he has passed the apex of his existence and is now on the downward incline. Such a thought implies a profound readjustment in his outlook upon life, sometimes with considerable mental disturbance. Along with this mental adjustment, there are not lacking indications which warn the individual that he must change his habits to conform to the changes in his body. He is a wise person who realizes all this and readjusts himself accordingly, maintaining at the same time the mental poise which accepts the inevitable without repining.

The mental attitude is important, and the emotional reaction is even more so. The old adage that a man is only as old as he feels expresses a good deal of truth. There is no need for gloom. A man of middle age, when knowledge and experience have ripened into at least a sort of wisdom, may look forward to many rich years of a useful and happy life; but he must make the necessary compromises with his body to do so.

His adjustments mean largely modification in his thinking and in his habits of eating, drinking, sleeping and exercise. He finds he can no longer eat as he once did and, as a matter of fact, he does not need the quantity of food which he once consumed. If he indulges in alcohol at all, he must now do it with discretion and judgment. He must give greater care to his sleeping and secure a complete night's rest, and he can no longer safely indulge in strenuous exercise. Making a sudden *sprint* to catch a street car is no longer an innocuous pastime; it may be highly dangerous. He finds himself obliged to consider many things never before given a thought, or else pay the penalty. It is no longer wise to live at high pressure; life must flow with more ease and more deliberation.

It may be observed, however, that mere years alone are not necessarily a safe guide as to when one has reached middle age. There are numerous individual variations with regard to these bodily changes; one man will show them comparatively early in life, another much later. In other words, a man is not so much as old as his years

as he is as old as his body. It has been well said that a man is as old as his arteries, because heart and arteries are necessary to existence, and when they undergo the changes incident to middle life and old age they are no longer capable of meeting the demands which were formerly made upon them. These demands must now be reduced to their capacity.

Specific rules of conduct and definite instructions as to the adjustments which one must make have been avoided. It is not the purpose here to outline specific rules of conduct; it is rather to present a general fact or law and a principle of hygiene based upon that law. *If one learns principles, one can formulate rules with ease.* It seems better first to establish as clearly as possible the principle which underlies the subject, rather than to attempt a mere formulation of rules of conduct; and the principle which an attempt has been made to establish definitely is that if a man would maintain health and vigor he must adjust himself to the changes which take place in his body at various stages of his existence.

However, it may be said that there is one general rule which is applicable, not only to this subject, but to many another problem of hygienic living, and that is the rule of moderation, the golden mean—moderation in all things. It is usually the excess which does the harm. To use a well-known figure, it might be said that moderation is the silken cord upon which we may safely string the pearls of all our hygienic habits.

U. S. PUBLIC HEALTH SERVICE.  
Washington, D. C.

### The Value of Calcium in the Human Diet

**B**ECAUSE the optimum ration of calcium is still a matter of debate, an examination of historic facts may aid in arriving at a decision.

European statistics show that the average individual uses daily 17 Gm. of common salt. Because common salt, in the countries of Europe, contains a percentage

of calcium, it is usually viewed as the leading source of that element in the diet.

Ocean-water salt contains a total of 4 percent of calcium salts; therefore, in the case of these people who use 17 Gm. of sea-salt daily, there would be an intake of calcium of 0.68 Gm. If one thinks more easily in terms of grains, then 0.68 Gm. is about equal to 11 grains.

It is estimated that people living chiefly on a vegetable diet are dependent on this source for approximately one-half of their calcium ration. According to these estimates, the normal adult human ration of calcium is in the neighborhood of 22 grains (1.36 Gm.). It is perfectly evident that, under modern conditions, there are vast groups of populations that are living on less than a daily intake of ten grains (0.65 Gm.) of calcium; and there are nations which, because of their geographic position, have, during all historic time, enjoyed the use of ocean-water salt in plenty.

If a full feeding of calcium in the diet favors efficiency, then these nations which have had it should be able to show, in accomplishments, what other nations, not so fortunately situated, are not able to show.

The list can begin with the Phoenicians, who gave us our alphabet. Then come the Jews, who gave us our religion. The Greeks follow, and they developed medicine, philosophy and art. Italy gave us our law. Portugal gave us the bulk of the discoveries that created modern geography. Holland and the small nations of northwestern Europe have developed commerce, manufacture and invention. These are the ponderables.

B. H. HAINES, M.D.  
Butterfield, Minn.

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(Continued from page 824)

As a single clinical report, this record would be of little value, but as typical of what is occurring in the majority of asthma cases, it is highly significant.

122 S. Michigan Boulevard.

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## THE · LEISURE · HOUR



Drawn for CLIN. MED. AND SURG. by John Powers.

THE SHIPPING CLERK'S WIFE ENTERS THE LYING-IN HOSPITAL

### The Old Country Doctor

Beneath his linen duster, sagged and bent,  
 Day out, day in, for fifty years or more,  
 Up the red clay hills and down he went,  
 His black square case upon the buggy  
 floor.  
 I've heard his horses pounding down the  
 lanes,  
 Lashed to desperate lather and to foam;  
 I've seen him give the weary team the  
 reins  
 And, worn out, sleep, the while they  
 ambled home.  
 His eyes were set in crinkled lines of  
 mirth,  
 Cheer was prescribed with griping  
 calomel.  
 He was the arbiter of death and birth,  
 The go-between of heaven and of hell;  
 Tender as woman, steadfast as a rock.  
 Small wonder all the hill-folk loved  
 "Old Doc!"

—ETHEL ROMING FULLER.

### Later Than He Thought

Two gentlemen riding on a train were  
 both very much intoxicated.  
 "What time ish it?" one asked.  
 After extracting a match-box from his  
 pocket and gazing at it intently, the other  
 replied, "Thurshday."  
 "Great heavensh!" the first inebriate  
 stuttered, "I've gotta get off here!"—*Col-  
 lection Service.*

### A Future Business Leader

An enterprising youngster had started a  
 new business. His business card gives the  
 following information:  
 Mr. Gerald Allen, Jr.  
 Personal Escorter.  
 Tots and Kiddies took to school and re-  
 turned, prompt in perfect condishin—  
 if received that way. Military dis-  
 cipline.  
 Rates 25c a week. Refined conversashin.  
 No extra charge for nose wipin.  
 All I ast is a trial.  
 —*Wall Street Journal.*

### A Safe Question

Two politicians were walking down the  
 street. A man came up and saluted the  
 elder: "How do you do, Senator?"  
 "Ah, how-do? Glad to see you. How's  
 the old complaint?"  
 The stranger's face clouded over and he  
 shook his head. "No better."  
 "Dear me; so sorry. Glad to have met  
 you. Good-by."  
 "Who's your friend?" asked the other,  
 when the stranger was gone.  
 "No idea."  
 "Why, you asked him about his old com-  
 plaint!"  
 "Pooh, pooh!" replied the Senator, un-  
 concernedly. "The old fellow's well over  
 sixty; bound to have something the matter  
 with him."—*Pharmacial Advance.*

### A Long Shot

A jockey was suddenly taken ill, and  
 the trainer advised him to visit a doctor in  
 the town.  
 "He'll put you right in a jiffy," he said.  
 The same evening he found Benjamin  
 lying curled up in the stables, kicking his  
 legs in agony.  
 "Hello, Benny! Haven't you been to the  
 doctor?"  
 "Yes."  
 "Well, didn't he do you any good?"  
 "I didn't go in. When I got to his house  
 there was a brass plate on his door—"Dr.  
 Kurem. Ten to one—I wasn't going to  
 monkey with a long shot like that!"—  
*Pharmacial Advance.*

"No, Archibald, a medicine-ball is not  
 a doctor's dance."—*American Stories.*

"Spare no expanse," said the fat woman  
 as she submitted herself to a hip-reducing  
 operation.—*American Stories.*

### When Nature Slipped

Nature doubtless is grand, but it wasn't  
 a very brilliant scheme to put most of the  
 vitamins in things you don't like.—*Brook-  
 lyn Times.*



## THUMBNAIL · THERAPEUTICS

### Diet in Pneumonia

In pneumonia the diet should be fluid and lacto-vegetarian, strongly alkaline, contain an extra ration of calcium and a large water ration to facilitate elimination. The articles which enter into this diet may well be restricted to modified milk, cereal gruels, strained fresh fruit juices, lactose, dextrose, salts, particularly those of calcium and sodium, and water. The order to "force fluids" should never be given. Too much fluid can do harm if the heart is weak.—DR. E. E. CORNWALL, of Brooklyn, in *M. J. and Record*, Feb. 18, 1931.

### General Anesthesia

The greatest need at the present time in the field of general anesthesia is the development of a highly volatile or gaseous substance, which will have the labile qualities of nitrous oxide gas with sufficient potency to produce complete relaxation of the abdominal muscles with quiet recovery of muscular tone and consciousness when the administration is interrupted. Such a drug, to be used in conjunction with the drugs now available, or to be made available, for intravenous, subcutaneous or rectal administration, might approach the ideal method of anesthesia.—DR. R. M. WATERS, in *Am. J. Surg.*, July, 1930.

### Strabismus in Young Children

The advice so frequently given—to do nothing, because the child will outgrow the strabismus—is faulty in about 85 percent of the cases. In general, there is a refractive error and to neglect correction of this by glasses will lead to a permanent squint. If the strabismus persists beyond the age of six or seven years, an operation is almost invariably required. On the other hand, if cases that would be relieved by glasses are operated upon early, they may

later develop a divergent squint.—DR. W. R. PARKER, of Detroit, in *J. Indiana S. M. A.*, Dec., 1930.

### Treatment of Phlebitis

Instead of keeping the patient immobilized in bed, in cases of phlebitis, it is well letting her get up, under the condition that a well-fitting compressive dressing is applied. The criterion of the compression being sufficient is the relief felt by the patient; while insufficient compression causes a sensation of weight and weakness. In hundreds of cases of severe phlebitis, treated by this method, no case of embolism was observed.—DR. K. W. FISCHER, in *München. med. Wchnschr.*, Aug., 1930.

### Arthritis

There is no specific treatment for arthritis as yet, but several modes of treatment have been adopted by different workers in this field with marked appreciable results. The skilled use of physical therapy measures—massage, hydrotherapy, postural exercise, external heat, diathermy—chemotherapy and non-specific protein therapy, like typhoid vaccines and milk, have benefited many patients. The milk injection method is the most economic, simplest and insures, in many cases, marked improvement.—DR. H. I. SHAHON, in *New York St. J. Med.*, Oct., 15, 1930.

### The Use of Cortin in Addison's Disease

A patient with Addison's disease, with a notably dubious prognosis, was revived and has been kept alive for more than five months by the injection of extract of the adrenal cortex. Four relapses have occurred following reduction of the extract. A few hours after increasing the extract following a relapse, improvement was evident each

time and, in two or three days, recovery was almost complete.

Each relapse was accompanied by a fall in blood pressure and a rise in blood urea. Blood sugar was low during or after a relapse.—DRS. F. A. HARTMAN, A. H. AARON and J. E. CULP, of Buffalo, in *Endocrinology*. Nov.—Dec., 1930.

### Cancer and Morphine

Many cancer patients come sooner or later to morphine; yet it is surprising how this hypnotic can be done away with in many instances.

Of the last 90 patients, discharged alive from the Cancer hospital of the Commonwealth of Massachusetts, 10 were taking morphine in larger or smaller amounts on entrance. Sixty-six (66) received morphine either preoperatively or as treatment postoperatively in the hospital, but not one of the 90 was taking morphine on discharge. Small doses of codeine and acetylsalicylic acid sufficed, in every case, to alleviate pain, after proper care had been taken of the patient.—DRS. H. JACKSON and G. R. MINOT, in *Am. J. Cancer*, Jan., 1931.

### Lupus Erythematosus

Four cases of lupus erythematosus yielded to bismuth treatment alone—about 15 injections at 4-day intervals—without any local treatment. It is suggested that the disease may have a luetic basis.—DR. V. BARBAGLIA, Sassari, Italy, in *Urol. & Cut. Rev.* Dec., 1930.

### Prescribing Iron

The most palatable iron preparation we know is based on an old-fashioned prescription, containing the solution of the perchloride, aromatic spirits of ammonia and syrup, but this is greatly improved if written thus:

℞ Liquoris Ferri Perchloridi	
	m xlv ( 3.00)
Liq. Potassae	℥ iii (12.00)
Ammonii Carbonatis	
	gr. iiss ( 0.16)
Tincture Limonis	
Spiritus Myristicae, āā	
	m vii ( 0.50)
Syrupi	℥ iii (12.00)
Aquae	ad ℥ i (30.00)

A dose of 1 dram contains approxi-

mately 5½ min. of the solution of iron perchloride.—DRS. V. E. HENDERSON and T. A. SWEET, of Toronto, in *Canad. M.A.J.*, Oct. 1930.

### Thyroid Medication in Obesity

Thyroid medication is often associated with diet restriction in the reduction cure of obesity. It may lead to leukemia. It should be insisted upon that thyroid is of service in the treatment of obesity only in those cases in which a definite condition of hypothyroidism exists.—*La Vie Médicale*, Mar. 25, 1930, through *Med. Herald*, Sept., 1930.

Send for your copy of "What About Heart Diseases." Educate your patients.

### Prolapse of the Breast

Virginal atrophic breast is increasing in incidence, with the danger of cancer from prolonged stasis.

Plastic operations will deprive nursing mothers of breast tissue and milk ducts and probably result in "caked" breasts and abscesses.

Proper uplifting support of the breast will cure the condition, if applied early.—DR. LILIAN K. P. FARRAR, in *J.A.M.A.*, Nov., 1, 1930.

### Organic and Inorganic Calcium

Healthy women ingested, alternately, milk and calcium lactate, under otherwise comparable dietary conditions in which the items mentioned supplied two-thirds of the available calcium. They appeared to utilize the inorganic calcium as effectively as the calcium of raw milk.—M. T. POTTER and M. M. KRAMER, in *J. Home Econ.*, Nov., 1930.

### Milk as a Food for Adults

In the easy diet of the adult who desires to avoid or postpone diseases and disorders which threaten on account of inherited or acquired subnormalities, milk claims special consideration as a protein.

Milk is the best protein food stuff for the easy diet. Its protein is not only perfect protein but practically pure, that is, free from admixture with protein fragments of the uric acid and meat extractive classes, which contaminate animal flesh.

And, moreover, by reason of its association with milk sugar, it is protected by the lactic acid from injurious bacterial activities.—DR. E. E. CORNWALL, of Brooklyn, in *M. J. & Record*, Aug. 6, 1930.

### Pimples and "Blackheads"

Pimples result from infection of distended sebaceous glands. If one will keep these grease glands emptied one will get rid of pimples. Men who shave are free from pimples on the skin. That points the way. Lather the skin with soap and hot water and go over it with the edge of a dull case-knife, pressing the grease from the glands. In other words, do what the shaver does, but use an edge that will not cut or scrape. There are some other aids, but this is enough in most cases. But persistence and soap are needed.—DR. W. A. EVANS, in *Chicago Tribune*.

### Podalic Version in Occipitoposterior Positions

After full dilatation in occipitoposterior positions, when the head is not engaged or descending, I do a version. I do not wait until the head becomes a "persistent" occipitoposterior. The patient has to be given an anesthetic in order to do a manual rotation, so why not do a version, which usually takes not more than 15 minutes, and not subject the mother to severe additional hours of labor with the baby in its new position? Very often the head will not "stay put" following a manual rotation. I grant that delivery by version may not be a popular method, but I feel it is my duty as a physician to relieve the mother of as much of the suffering of childbirth as possible, when it can be done with safety.—DR. S. MEEKER, of Memphis, in *Memphis M. J.*, June, 1930.

### Auricular Fibrillation

In the paroxysmal attacks of auricular fibrillation, good results may be obtained by the use of **quinidine sulphate**, in doses of from 1 to 3 grains four times a day and with an extra dose during the night if necessary. In patients who have a fair cardiac muscle and who have had auricular fibrillation for months or years, the normal mechanism may be restored in a high percentage of cases. After a small test dose

of 2 grains, with the patient in bed, the drug is continued every four hours day and night for as long as a week if necessary; and the size of the dose may be gradually increased also, if no results are obtained after the second day or if no toxic symptoms develop.—DR. W. J. KERR, of San Francisco, in *Northwest Med.*, Aug., 1930.

### Sleep and Rest in Psychotic Cases

Sodium isoamylethylbarbiturate is extremely valuable in controlling insomnia associated with the excited mental states. Every patient in a series of over 50 cases, regardless of the degree of excitement, became drowsy after 3 cc. or  $4\frac{1}{2}$  grains (0.28 Gm.) had been injected intravenously. After from  $7\frac{1}{2}$  to 10 grains (0.48 to 0.64 Gm.) had been administered, the patient usually was in profound sleep.—DR. W. J. BLECKWINN, Madison, Wisc., in *Arch. Neurol. & Psychiat.*, Aug., 1930.

### Episiotomy

The anatomic arrangement of the fascia and muscles at the introitus vaginae is such that the passage of a large object, such as a full-term fetal head, cannot but tear or stretch them and, in many cases, cause a complete rupture.

An episiotomy, done at the proper time (at the beginning of the second stage of labor) and correctly and anatomically repaired, will prevent these ruptures and will leave a pelvic floor scarcely recognizable as one over which a fetus has passed. Episiotomy should be employed routinely in all primiparas and it must follow in all succeeding deliveries.—DR. J. CAMPBELL SMITH, Detroit, in *J. Mich. St. M. Soc.*, July, 1930.

### Backward Displacement of Uterus

Conservative measures (carefully fitted pessaries) should be employed in the management of backward displacement of the uterus, until definite indications warrant suspension, when the radical correction, by either the Alexander round ligament operation, with abdominal section, or the Alexander groin operation, with midline abdominal section, will offer satisfactory results in women under 35 years of age.—DR. JOHN C. HIRST, Philadelphia, in *Am. J. Obst. & Gynec.*, June, 1930.

### Iodine in Exophthalmic Goiter

I have never seen patients with exophthalmic goiter made worse by iodine, nor have I ever been completely convinced that they truly become intolerant or refractory to it. The action of iodine in exophthalmic goiter bears some crude analogy to that of digitalis in heart disease or salicylates in rheumatic infection. These drugs diminish the intensity of symptoms but do not alter the progress of the diseases in which they are used.—DR. J. H. MEANS, of Boston, in *Ann. Intern. Med.*, Aug., 1930.

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### Hyperemotionalism and Anxiety States

To teach the patient not to repress his painful recollections—not to struggle against them—is the primary essential in the therapy of anxiety. The obstinate desire of the patient to push away the distressing circumstance that troubles him must be overcome. Mere suggestion is powerless against a profound anxiety, and distraction by outside influences is equally impotent. The troubling circumstance must be compelled into full light by the patient; he should understand it, reason with it and see that it can be overcome.—DR. TOM A. WILLIAMS, Washington, D. C., in *M. J. & Record*, Nov. 5, 1930.

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### The Child That Will Not Eat

For the child that will not eat, treatment often is no simple matter. Not only is a knowledge of the child's make-up necessary but a great deal of patience must be exercised as well, at times.

First, the child's feeding habits must not be discussed, certainly not in his presence. Second, the mother or nurse should be made to understand that the child will not die of starvation, even if he misses a few meals. The child should be offered a well-balanced normal diet and no important article eliminated because he does not like it. Three meals a day should be offered and absolutely nothing allowed between meals but water.—DR. C. E. HUNT, Eugene, Ore., in *Northwest Med.*, Nov., 1930.

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### Heart Failure

Venesection (500 to 700 cc. or more) is often of extreme value in cases where the right ventricle has given out to a greater degree than usually occurs.

In elderly patients with poor compensation, the rest produced by narcosis is extremely valuable. Morphine is the best agent. Start with  $\frac{1}{4}$  grain, then, in a couple of hours,  $\frac{1}{4}$  grain more and so on. Slow the respiration to about one half what it was at the start and keep it there for two or three days.

In young patients with valvular lesions, digitalis is the best drug; but in old patients it is often very harmful. Theocalcin, in  $7\frac{1}{2}$  grain tablets, 3 times a day, or ephyllin in smaller dosage, 3 times a day, is better and can be taken over weeks or months at a time.—DR. R. B. PREBLE, of Chicago, in *Internat. J. Surg.*, Aug., 1930.

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### Sacro-Iliac Pain

The treatment of sacro-iliac pain (backache) consists of reduction or of pushing the ilium downward, so that it resumes its proper relationship with the sacrum. With the patient in the prone position and relaxed, reduction is effected by a quick downward push on the iliac crest. If reduction is successful (and the surprising part is that it usually is) the muscle spasm will relax and the pain will magically disappear.—DR. G. P. BERGMANN, of Mattituck, N. Y., in *New York St. J. Med.*, Oct., 1, 1930.

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### Anesthesia with Sodium Amytal

From experience with Sodium Amytal, two objectionable features stand out. First: The intravenous administration of any drug which cannot immediately be removed from the system demands an effective antidote. Ephedrine sulphate and caffeine sodium benzoate partially meet this demand. Second: The prolonged period of narcosis which sometimes follows its use may possibly mask some acute post-surgical condition, such as hemorrhage.—DR. T. E. STRUTHERS, in *M. J. & Record*, Oct. 1, 1930.

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## Current • Medical • Literature

### Vitamin D and Calcium Metabolism

According to an editorial in *J.A.M.A.*, July 11, 1931, progress will attend the clearer understanding of the precise mode of action of vitamin D. Almost every month is bringing elucidating contributions. One of the latest deals with the phenomena of hypervitaminosis. It starts with the well-established thesis that vitamin D acts by increasing the apparent solubility of the calcium and phosphate in the blood, an increased content in the blood facilitating deposition in the sites to be calcified. An increased vitamin D intake promotes increased absorption of calcium and phosphate from the intestine (or diminished excretion into the intestine), thus tending to raise the level in the blood.

With inadequacy of vitamin D, the blood fails to secure sufficient calcium or phosphate or both; with moderate amounts, the blood succeeds in maintaining its approximate constancy of composition; while with large overdoses, hypercalcemia and hyperphosphatemia cannot be averted. In the latter condition the kidney responds by an abnormal urinary excretion of calcium and phosphorus.

Retention of calcium or phosphate by the animal as a whole is seen to be the resultant of two factors, working in opposite directions: the increased absorption from (or diminished excretion into) the intestine and the increased excretion by the kidney. As more and more vitamin D is given, the latter factor overtakes the former, so that the resulting retention, while it is increased by moderate doses of the vitamin, is diminished by large doses.

### Treatment of Whooping Cough by Rectal Injections of Ether

In *Southern Med. J.*, Aug., 1930, Dr. W. A. McGee, of Richmond, Va., refers to the treatment of whooping cough by ether which was first used intramuscularly by Andrian, in 1920, and rectally by Elgood, in 1925.

The author tried the rectal method in 77 females and 74 males with pertussis, 104 of the patients being under 1 year old.

Results with patients over 1 year old were better than with those younger.

The ether was administered in olive oil, given daily and often twice daily. The usual dose was one dram of the mixture of equal parts of ether and olive oil by the gravity method. For infants under one year, two drams of 25-percent ether was injected twice daily. In severe cases extra drams were given.

No detrimental effects were observed. As a rule the ether was given for 5 to 12 days, according to the patients' response.

From the tables of comparative results with ether and other medicaments, it is seen that the patients treated by ether were practically well on an average of 10.5 days; those treated by ephedrine in 24.5 days; those treated with vaccine in 28 days; with ether and ephedrine in 11.8 days; with ether and vaccine in 12.5 days; and with other combinations in from 12.4 to 39 days.

From the consistently good results obtained from rectal injections of ether, the author feels that it is the treatment of choice for whooping cough.

### Medication of Nasopharyngitis

One of the earliest symptoms of a common cold is nasopharyngitis.

The following prescriptions have been suggested as therapeutic measures in the treatment of infections of the nasopharynx:

#### Silver Preparations

- R Argylol, 10% sol..... 3 ss 15.0  
Sig. One or two drops in nose every 2 hours.  
R Neo-Silvol, 5% sol..... 3 ss 15.0  
Sig. Same as above.

#### Oil Sprays

- R Menthol  
Camphor aa .....gr. iii 0.20  
Acidi Carbolicci .....m ii 0.13  
Liq. Paraffine q.s. ad.....3 ss 15.00  
Sig Drop in nose or use in atomizer.  
R Menthol  
Camphor aa .....gr. iii 0.20  
Acidi Carbolicci  
Tr. Iodin aa .....m iii 0.20  
Ol. Eucalyptol .....3 i 4.00  
Liq. Paraffine q.s. ad.....3 i 30.00  
Sig. Same as above.

—Editorial, *Internat. Med. Digest*, April, 1931.

### Sex Life in Women

In an interesting study of the sex factors in the lives of 1098 women who applied to a gynecologist for assistance, presented by Dr. Robert L. Dickinson, of New York, in *J.A.M.A.*, for Aug. 22, 1931, the need for the development of a technic of sexual adjustment is strongly emphasized.

Among the author's conclusions are these:

- 1.—The woman has a capacity for sexual



desire, lifelong, inconsistent and fluctuating, and found in every individual fully studied. The manifestations of this desire and her ability to turn them to happy issues are extraordinarily dependent on her early life.

2.—While intimate sex relations are most completely welcomed by women when they are adjusted to the personality as a whole, there is a definite physical technic that can be developed and kept perfect only through experiment. The physical difficulty typical of the couples in this series is that their common knowledge and the husband's technic are not adequate, and anatomic considerations have received scant attention. There is also a definite psychologic technic of surmounting barriers and entering into the feelings of another. The mental balk is in making sex fit the rest of life, or in straight facing of need of training in adaptation and expertness.

3.—The sexual difficulties revealed are not, in the main, organic in women and, save in exceptional cases, not functional. They are variants of mental and emotional behavior.

4.—Physicians face a medical obligation toward further intensive inquiry and toward the training of a personnel equipped to conduct the marriage advice center, and to teach in the physician's office chair.

The entire article is full of information all physicians need, and should be read in full.

### The Undergraduate Teaching of Obstetrics

Dealing with the indictment that the United States ranks highest among the civilized nations of the world in maternal obstetric mortality, Dr. Palmer Findley, of Omaha, shows in *Am. J. Obst. & Gynec.*, June, 1931, that this indictment is generally justified and that its cause must be sought in insufficient teaching of obstetrics in the medical schools.

In the curriculums of the medical schools of Holland and Scandinavia (where the maternal mortality of childbirth is least), obstetrics ranks equally with internal medicine and general surgery, while in the United States, until quite recently, the proportion of teaching hours in general surgery, as compared with obstetrics, was 4.5 to 1. In the University of Lund, Sweden, the students devote four months to clinical obstetrics as residents in a maternity hospital; each student will have personally conducted an average number of 38 to 40 labors, 1 or 2 forceps cases and 1 or 2 abortions; some will have performed special maneuvers; prenatal and postpartum instruction is stressed in the clinic. Nowhere in the United States can we approach such clinical instruction, as proved by information obtained from deans and heads of obstetric departments in various teaching schools. The details of these replies are well worth studying, as classified in Dr. Findley's article, and cannot be given in this short abstract. On the whole the information furnished shows that in most hospitals there are enough obstetric cases available for each intern to receive adequate experience in the conduct of normal labor, provided he is given an opportunity to observe, assist at, and conduct deliveries under competent direction.

His judgment and skill at the end of his internship will depend largely upon the efficiency of this direction.

The leading gynecologic and obstetric societies of America are uniting in making overtures to the Council of Medical Education of the American Medical Association for a larger recognition of obstetrics in the curriculums of our medical schools. The Committee on Undergraduate Teaching of Obstetrics, appointed jointly by these bodies, make the following recommendations on this important subject:

1.—Unification of the departments of obstetrics and gynecology in medical schools and in all hospitals affiliated with and controlled by the university.

2.—All members of the teaching staff should be qualified obstetricians and gynecologists.

3.—The extension of special pathology laboratory courses, manikin demonstrations and clinical clerkships.

4.—More liberal use of charts, models, specimens, lantern slides, and movies.

5.—Better correlation of the teaching of the basic sciences with the teaching of obstetrics and gynecology.

6.—A rotating internship of one year, embracing a satisfactory maternity service, should be required for the licensure for the practice of medicine. It is recommended that an effort be made in all states to secure legislation.

7.—There should be larger opportunities for witnessing complicated cases.

8.—The reasonable number of cases for students to participate in delivery under adequate supervision is not less than 25.

9.—All student deliveries in the home should be supervised by a teaching obstetrician. Instruction to the students to call for help "when needed" is not adequate supervision.

10.—The bloc system for teaching clinical obstetrics.

11.—The development of larger and better prenatal and postpartum clinics.

12.—More liberal allotment of teaching hours in clinical obstetrics. Teaching hours and facilities should be on a parity with general surgery.

13.—Adequate facilities for clinical instruction in obstetrics and detailed instruction in preconceptional, prenatal, intranatal, and postnatal care, preferably in an isolated maternity building, in close proximity to the university hospital and under university control.

14.—The development of plans whereby more of the obstetric cases in hospitals not now used for teaching may be made available for that purpose.

15.—The committee indorses the recommendation of the American Association of Medical Colleges that 5 percent of the total hours required for graduation and degree be devoted to instruction in obstetrics.

16.—There is need for the general adoption of a comparable form in the catalogues of medical schools which will obviate confusion and insure greater accuracy and completeness.

Send for your copy of "Who's Your Health Banker." Ready now.

## Gland Extracts in Experimental Carcinoma and Sarcoma of Rats

From experimental researches, Dr. O. M. Gruhitz, of Detroit, states in *Ann. Intern. Med.*, June, 1931, that:

1.—Albino rats inoculated with Flexner-Jobling carcinoma when treated with different suprarenal cortex substance extracts, both with high and low adrenalin content, showed neither a delay in the growth of the tumors nor their regression, as compared with either untreated tumor-bearing rats nor those treated with a non-specific protein extract of ox testis.

2.—The treatment with thymus extract neither inhibited the growth nor caused the carcinoma tumors in rats to regress. Injection of the extract did not prolong the life of the tumor-bearing animals.

3.—The suprarenal cortex extracts with high or low adrenalin content, the thymus, the omentum-lipoid and the ox testis extracts neither inhibited growth nor caused regression of the Jensen sarcoma tumors in albino rats.

4.—The rate of ulceration of carcinoma tumors under treatment with various gland extracts was not greater, as compared with the rate of ulceration of similar tumors in rats under treatment with inorganic salts or with a non-specific extract of ox testis.

5.—The organic extracts studied in experimental carcinoma and sarcoma in rats had no beneficial effect in inhibiting growth of the tumors, their regression, nor did the extracts cause prolongation of life of the tumor-bearing animals, as compared with untreated tumor-bearing animals or those treated with non-specific protein extracts.

## The Relation of Pain to Jaundice

In *Ann. Intern. Med.*, June, 1931, Drs. Jas. F. Weir, of the Mayo Clinic and W. T. Patch, of Evansville, Ind., discussing the relationship of pain to jaundice, find that although colic is the most typical pain in disease of the biliary tract and, when associated with jaundice, is usually indicative of stone in the common bile duct, yet it may be absent or replaced by equivalents of much milder degree. The intermittency of symptoms, their site in the upper part of the abdomen, and the association of evidences of infection are valuable features in localizing the disease process.

Typical colic may occur in other conditions and the total symptoms may simulate calculus of the common bile duct to a large extent and lead to erroneous diagnosis. Such conditions are cholecystitis, with or without stones and without evidences of stones in the common bile duct; colic following cholecystectomy; stricture of the common bile duct; cholangitis; carcinoma of the pancreas or biliary tract; and cirrhosis.

Although colicky attacks had occurred in approximately 80 percent of the cases of stones in the common bile duct in which operation had been performed, in the Mayo Clinic they had also occurred in approximately 45 percent of cases of stricture and in 13 percent of cases of carcinoma of the pancreas. On the other hand, pain may be absent in relation to the onset of the jaundice in many of these conditions. Thus

jaundice developed with relatively no pain in 50 percent of cases of carcinoma of the pancreas; in 55 percent of the cases of stricture of the common bile duct; in 14 percent of the cases of stones in the common bile duct; and in 22 percent of cases of stone in the common bile duct in which operation had been performed.

## Some Useful Medicinal Aids for Dentists

In *Dent. Cosmos*, July, 1931, J. Lewis Blass, D.D.S., mentions a number of medicinal aids in conservative periodontal treatment.

A good obtundent liquid for use in scaling and curetting is the following:

Pot. hydroxid .....	2.0
Water .....	4.0
Tr. green soap .....	8.0
Phenol liq. ....	10.0
Heat to boiling point	
Glycerin .....	10.0
Antipyrin .....	20.0

Make a solution.

Apply to the crown or root surface with the instrument used and allow it to remain for a few minutes before scaling or curetting.

Gingival abrasions caused by improper brushing methods may be relieved by painting a small amount of the following on the abraded areas:

Tr. benzoin { .....	15.0
Tr. myrrh { .....	

## Modified Aschheim-Zondek Pregnancy Test

In *Western J. Surg. Obstet. and Gynec.*, July, 1931, Drs. W. C. Bradford and L. C. Todd, of Charlotte, N. C., draw attention to Reinhart and Scott's modification of the Aschheim-Zondek biologic test for pregnancy. In this, from 5 to 15 cc. of the supposed pregnant woman's urine is injected intravenously through the marginal vein of the lobe of the ear of a rabbit. The animal is not killed, but laparotomy is carried out between 24 to 28 hours after the injection. If corpora hemorrhagica are found in the ovaries, the test is positive.

Only one unmated rabbit is necessary for this test and only one injection.

The authors have found the test positive in a pregnancy of only 7 days, and in 22 other cases of early pregnancy. The urine used should be the first voided in the morning. The rabbit should be healthy and not pregnant, 3 to 4 months old and weigh 4 pounds or more.

## Tetrachlorethylene for Hookworms

An editorial in *Internat. Med. Digest*, March, 1931, refers to certain clinical tests showing the superiority of tetrachlorethylene in the treatment of worm infestations, carried out by Kendrick and reported in the *Am. J. Trop. Med.*, Nov., 1929.

A total of 119 persons were treated, of whom 59 received 3 cc. of tetrachlorethylene; 30 received 2 cc. of tetrachlorethylene; and 30 received 2.4 cc. of a 3 to 1 mixture of tetrachlorethylene and oil of chenopodium.

The results indicated that tetrachlorethylene is more effective against female than male necators, and the reverse is true of the species *ankylostoma*. Tetrachlorethylene in doses of 2 or 3 cc. was not so effective against necators as is 2.4 cc. of a 3 to 1 mixture of the drug with oil of chenopodium; but when both necators and *ankylostoma* are considered, the efficacy rate for tetrachlorethylene alone was higher. Kendrick further concluded that when both species were considered, tetrachlorethylene was just as efficient as any drug or any combination of drugs that was tried. No fatalities and only one intoxication of significance were observed in a series of approximately 1,500 treatments with 3 cc. of tetrachlorethylene.

### Passive Immunity to Measles by Whole Blood Intramuscular Injections

There is evidence that intramuscular injections of whole blood, from immune adults who have had measles, will temporarily protect those who have been very recently exposed to the disease.

In *Mil. Surg.*, Aug., 1931, Major M. A. Farlow, M.C., U. S. Army, reports that he employed such injections in the cases of 6 children who were taking measles and developing a rash after a recent exposure. In the 6 cases injected (a single dose of 15 cc. of whole blood from immune adults in the gluteal muscles), 5 were protected for at least one month and the other child developed a very light attack of measles.

### The Committee on Foods of the American Medical Association

Owing to the great advance in the scientific knowledge of foods within recent years the American Medical Association appointed a Committee on Foods to serve in relationship to food products in the same way that the Council on Pharmacy and Chemistry concerned itself with drug products.

Since the establishment of the Committee on Foods, 455 individual products have been submitted. Of these, 11 have been accepted and some 340 are pending.\* A list of rules was published in 1930. Medicinal foods are dealt with in association with the Council on Pharmacy and Chemistry.

Malted milks, chocolate, tea, coffee, processed vegetables, gelatin fruit and vegetable juices and the methods of preparing these substances as food, as well as hundreds of other questions regarding the nutritive value of foods, and especially proprietary foods, occupy the attention of the Committee. Such matters as irradiation of foodstuffs also come within its purview.

The great object of the Committee is to prevent or discourage unwarranted, incorrect or false advertising claims in the promotion of food products, and thus protect the public and the medical profession against deception.

The Committee feels that it has made a not-

\*At the end of September, 541 products had been studied and 165 accepted.—Ed.

able beginning in its work. It anticipates increasing interest and influence for the future, dependent on the extent to which the medical profession and the public support the work of the Committee.—Dr. M. FISHBEIN, in *J.A.M.A.*, July 11, 1931.

### Maggot Treatment of Osteomyelitis

It is estimated that there are over 10,000 unhealed cases of osteomyelitis in the United States.

According to Drs. J. Myers and L. M. Czaja, of Chicago, in *Illinois M. J.*, Aug., 1931, treatment with maggots seems to cope with the difficulties experienced in the surgical treatment of osteomyelitis in a measure beyond all expectations. Maggots remove bacteria mechanically, by ingesting and digesting them. They also excrete or cause to be excreted something in the wound which has a definite germicidal action. They feed on the devitalized tissue until it has all disappeared; the removal of dead tissue from the wound by maggots is almost phenomenal.

The osteomyelitic cavity is treated surgically in the usual way, under strict aseptic conditions; the wound is packed with vaselined gauze, deformities corrected and the limb is supported by splints in such a way that subsequent manipulations are not interfered with.

Three or four days after operation, the vaseline pack is removed from the cavity and a special cage is applied and fastened over the site. The maggots, sterilized and 48 to 60 hours old, are introduced into the bone cavity by an opening in the cage. They are left in the wound 5 days and then washed out with isotonic salt solution and new ones implanted through a new cage. Gradually discharge and odor lessen, wound secretions turn from acid to alkaline in reaction and the bacteria diminish until they disappear entirely. Healthy granulations gradually cover the surface, until they are even with the skin edges. The final result is that the maggots themselves cannot live in contact with the wound, and so die. Gradually epithelium covers the granulations and the wound is healed. Should any pus reappear, maggots are again applied until it clears up.

A bone wound under maggot treatment fills in with granulation tissue in a few weeks. The treatment employs the principle of a viable antiseptic, which works in accordance with the principles of Lister and follows the methods of Nature. The authors advocate it as an economic, efficient form of therapy, which produces healing without draining sinuses in the shortest length of time, with the quickest return of function and the least retraction of the scar of any treatment in use at the present time.

### Weak Feet and Pain in the Back

According to Dr. R. F. Berg, of Portland, Ore., in *Western J. Surg. Obst. & Gynec.*, April, 1931, weak feet are often the cause of pain in the back. The thrust of the astragalus in weak feet in general tends to cause prodromal symptoms about the internal aspect of the ankle, due to the stress and strain on the ligaments and muscles involved. The strain may be re-

flected in pains about the knee joints and in the lower back.

As a rule, the posture in a weak-footed individual tends toward an increased anterior inclination of the body, thereby throwing a great deal of added stress and strain on the erector spinalis group, due to the fact that the spine tends to incline forward with the body in walking, throwing an added pull on the muscles which are trying to hold the vertebral column in the extended position. It is this strain which causes the vague back symptoms and the aggravation of the pain in definitely traumatic cases.

Treatment includes: First, the correction of the weak feet; second, support of the back until readjustment can take place; elimination of foci of infection; exercises for the correction of improper posture of the feet; and building up general resistance. Acute cases, associated with severe pain and disability, will require rest in bed on a fracture board, with gradual hyperextension of the lumbar spine.

### Value of Iodized Oil in Nasal Accessory Sinus Disease

According to Dr. R. H. Fraser, in *Bull. Battle Creek Sanit.*, April, 1931, there are several reasons why opaque injection and suffusion with iodized oil are required in non-suppurative sinusitis, because of its several types of latency: First, because of the minor nature of many of the local symptoms, attention is not directed to the paranasal sinuses and also, over periods of years, there may be no symptoms; second, in cases coming to the routine nasal examination, the disease may escape detection because it may be negative to routine rhinoscopy and transillumination; third, in the absence of complications the disease may be deliberately ignored; fourth, complications may be seen but, due to our lack of experience, they may not be appreciated as such.

Opaque injection and suffusion are valuable as foundation for rational surgery: First, surgical methods always might be found necessary, and great care is therefore needed in discrimination; second, the number of sinuses to be treated, and the denudation of thickening, if any, must be decided. The preponderance of the disease must be overcome in order to validate the constitutional methods of therapy. Measurements of diseased masses give an appreciation of percentage of relief to be expected by removal. Surgery is guided by iodized oil findings before, in interim, and in the final opinion of result. Conservative methods, if explained to the patient along with roentgen-ray films, are often justifiable.

### The Heart in Old Age

A study of 700 patients, from seventy-five to ninety-six years of age, is given by Dr. F. A. Willius, of the Mayo Clinic, in *Am. J. Med. Sc.*, July, 1931. The records used were selected from those of patients who had undergone electrocardiographic examination at the Clinic from 1914 to 1930.

Forty-seven (47) percent of the patients were

aged seventy-five and seventy-six years. The numbers in the various age groups diminished progressively with advance in age; only 0.5 percent were between the ages of ninety-one and ninety-six years. The ratio of the sexes was 5 men to 1 woman. Seventy and three-tenths percent (70.3) of the patients had systolic blood pressures of 140 mm. of mercury or more. Only 9.7 percent had systolic blood pressures of 200 mm. or more. The mean blood pressure ranged from 109 to 127.8 mm. The diastolic blood pressure in 40.3 percent of cases was 90 mm. or more. Diastolic pressures of 110 mm. or more occurred in 107 cases. Pulse pressures of 60 mm. or more occurred in 69.6 percent of cases and readings of 90 mm. or more in 20.7 percent. It is evident from this study that hypertension is the rule in aged patients. There were 315 patients (45 percent) without clinical evidence of heart disease, as opposed to 385 patients (55 percent) with clinical evidence of heart disease.

From this study of aged patients, the impression is gained that the majority of persons, even in the presence of evident heart disease, possess hearts of unusual quality. This impression becomes strengthened by the fact that only 85 patients (12.1 percent of the complete series) had congestive heart failure. The heart, impaired or unimpaired by disease, that permits continuation of life to and beyond the seventy-fifth year is an organ of unusual quality.

### Vitamins in Commerce

Modern existence tends toward dependence upon foods which need little individual preparation. The public looks to the manufacturer to provide it with foods that are not only palatable but nutritive. Hence, the question of vitamins has had to be taken into careful consideration by those who prepare foodstuffs on a large scale. Some of these aspects are dealt with by Dr. Ethel Browning, of London, England, in *M. J. & Record*, June 17, 1931.

The effects of pasteurization of milk upon its contents of vitamins A and D is apparently not great, Vitamin B may be affected to a greater or less degree by the method of pasteurization. Vitamin C is not affected so much as was formerly believed. Recent researches show that all processes of evaporation and sterilization tend to decrease vitamin D potency.

The only vitamin likely to be appreciably diminished by the processes of canning of fruit and vegetables is vitamin C; but when the canning is carried out in the absence of oxygen, little destruction takes place.

Regarding the irradiation of food stuffs to increase vitamin D, the clinical value of irradiated milk, both fresh and dried, is undoubtedly, but the processes tended to decrease vitamin A potency. A method reported last year claims to obviate the destruction of vitamin A and at the same time to increase the augmentation of vitamin D better than less recent methods. The milk is passed over a corrugated cooler, running fast at first, so that the whole surface of the cooler is covered with a thin film of milk. A quartz mercury vapor lamp, in a reflector specially designed to focus all the rays upon the cooler, is then directed on to the milk. It is

estimated that by this method a particle of milk would be on the average thirty seconds on the cooler but for the greater part of the time it would not be sufficiently affected by the rays to produce destruction of the vitamin A content.

Many foods have been successfully irradiated and have been found very stable in their antirachitic properties, resisting the effects of cooking, drying and preservation to a remarkable degree.

### Efficiency of Commonly Used Hypnotics

From a clinical test of various commonly used hypnotics, Dr. G. P. Grabfield, of Boston, states in *J.A.M.A.*, May 30, 1931, that barbitol, as originally introduced, is the most efficient of the many barbituric derivatives that have been placed on the market. Phenobarbital (Luminal) was introduced for its effect on the motor cortex and is as efficient as bromide in the treatment of epilepsy. This particular virtue would necessarily reduce, by approximately one-half, its efficiency as a hypnotic and would increase the toxicity, as compared with barbitol itself.

One of the best of the newer barbiturates is *Neonal*, which substitutes a normal butyl group for one of the ethyl groups in barbitol. This was among the better of the 18 barbituric acid compounds originally studied by Fischer and Von Mering.

Taking the question of each into consideration, chloral hydrate, in small doses, and barbitol are the most effective and cheapest nonalkaloidal hypnotics available today.

### Trauma to Heart from Non-Penetrating External Injuries

Rupture of thoracic viscera may follow external non-penetrating injuries and, in *Ann. Intern. Med.*, May, 1931, Drs. E. L. Tuohy and P. G. Boman, of Duluth, cite several examples from the literature. They also give examples derived from the findings in more than one thousand autopsies during recent years.

As well as the fatal lesions discovered at autopsy, it must be possible that non-fatal degrees of laceration and hemorrhage may occur. These, with edema or simple trauma, may induce physiologic perversions, auricular fibrillation, various degrees of heart block, etc. Even in apparently minor injuries it would be well to investigate the thoracic organs, especially in the middle-aged and older persons.

### Calcium Therapy

In *M. J. & Record*, Aug., 1930, Dr. E. Barth, of Budapest, points out that the specific effect of calcium on human metabolism is maintained by a delicately-adjusted regulatory system, in which fixation and mobilization by the tissues assume the principal role.

Calcium exerts a dual action on the vegetative nervous system; namely, an initial well-marked vagus stimulation, followed by a weak stimulation of the sympathetic.

There are a number of therapeutic indications for the administration of calcium—in anaphylac-

tic conditions, for cardiac disorders, for bronchial asthma, for diarrhea, for checking internal hemorrhages, etc.

Calcium gluconate is a particularly desirable form of giving calcium, since it is tasteless and no untoward results follow its injection, intravenously.

### Cancer Deaths of Men Increase

At the March 7, meeting of the *Am. Soc. for the Control of Cancer*, Dr. L. I. Dublin, statistician of the Metropolitan Life Insurance Company, said that deaths from cancer have been increasing three times as fast among men as among women in the last two decades.

In the course of his address, Dr. Dublin said: "Cancer deaths in the United States involve a loss of practically \$800,000,000 a year, but there are larger values involved. It appears that in recent years a significant increase in the mortality from cancer of the stomach and the liver has occurred. Between 1911 and 1922 these cancers showed a very slight and in no way significant rise. Also between 1911 and 1922 the upward trend in the death rate from cancer of the breast among white women was confined to the age group 55 to 64; it is now found that the mortality is also increasing in the earlier age group, 45 to 54. The more recent figures show that the most pronounced upward tendency has been registered for cancers of the intestinal tract. There has been no decline in the death rate from cancer of any organ or part. Taken altogether, the mortality picture for cancer is just as serious as ever, and the situation at the older ages is getting decidedly worse. From the standpoint of effective control of the cancer problem through public agencies, there is no more important first step than to insist on immediate and compulsory registration of cancer cases."

### Stimulation of Peristalsis by Sodium Chloride Solutions

As reported in *Surg. Gynec. & Obstet.*, May, 1931, Drs. T. G. Orr, P. N. Johnstone and R. L. Haden, of Kansas City, following experiments on dogs, confirm the observations of others that hypertonic sodium chloride solutions stimulate peristalsis. The authors did not find that physiologic sodium chloride solution caused a change in the activity of the intestine. The introduction of hypertonic sodium chloride solution into the bowel caused violent peristalsis in one animal, with vomiting and defecation. Some of the animals had a bowel movement soon after the injection of hypertonic sodium chloride solution. Some appeared to have discomfort, as if the increased bowel activity caused colic.

From the clinical and experimental observations, it seems probable that sodium chloride introduced into the body serves to: (a) replace the chlorides lost in certain diseases, such as intestinal obstruction; (b) probably is an active factor in water distribution in the body; (c) stimulates peristalsis; and (d), by increasing the tone of the bowel, diminishes post-operative distention and ileus, with its resultant anti-peristalsis and vomiting.

A study of the action of physiologic sodium



chloride solution, hypertonic sodium chloride solution, hypertonic dextrose solution and hypertonic sodium bicarbonate solution on peristalsis of the jejunum was made and the following conclusions reached: The stimulating effect of hypertonic sodium chloride solution upon peristalsis is further evidence of its value in the treatment of paralytic ileus and following operation for the relief of intestinal obstruction.

Further observation is necessary to determine the clinical value, if any, of sodium bicarbonate as a peristaltic stimulant.

### Induction of Sleep in Epileptic Persons

In *Arch. Neurol. and Psychiat.*, July, 1931, Dr. J. Rosett, of New York, refers to a mechanical apparatus, which he has previously described, for the induction of sleep. In this the individual is laid flat on the back with the body and limbs extended.

Referring to sleep induction by drugs, Dr. Rosett states that sedative, narcotic and anesthetic drugs may be divided into two distinct groups. The administration of drugs of the first group results in the production of phenomena of release and activation and finally of muscular flaccidity. This may be interpreted as being due to the successive involvement of the several neurons that make up the long or cerebral reflex arc. Administration of drugs of the second group results in an absence of phenomena of release and activation. This may be interpreted as being due to a simultaneous involvement of all of the neurons that make up the long or cerebral reflex arc.

The clinical picture of the effect produced by the first group of drugs is similar to that of the epileptic seizure and to the onset of normal sleep. In the same manner that the onset of normal sleep is favorable to the occurrence of the epileptic seizure, so the action of these drugs is rather favorable than otherwise to the occurrence of epileptic seizures.

The action of the second class of drugs, which tend to counteract the symptoms of the epileptic seizure, is like that of exceptional sleep that is devoid of release phenomena and that is characterized from the beginning by muscular relaxation. Such sleep can be produced artificially by means of the author's mechanical appliance. Like the second class of drugs in question, therefore, such sleep has the effect of temporarily diminishing the frequency and severity of epileptic seizures.

### Acute Gonorrheal Arthritis

In *Illinois M. J.*, June, 1931, Drs. D. F. Rudnick, of Chicago, and H. J. Burnstein, of Decatur, report the results obtained by combining different therapeutic measures in 31 cases of acute gonorrheal arthritis, in all of which positive gonococcal smears were obtained from the urethra, cervix or prostatic secretion.

These authors summarize their findings as follows:

1.—Monoiodocinchophen (2 capsules, three times daily) is a valuable adjuvant in the treatment of gonorrheal arthritis. In some instances its use alone afforded good relief.

2.—Vaccines are beneficial in diminution of pain, but there is a tendency toward recurrence of symptoms after the febrile reaction has receded.

3.—Immobilization with casts affords relief from pain, and placing the joint at rest promotes resolution of the inflammatory process.

4.—Bilateral vasotomy, with injection of five-percent collargol, will give prompt relief from pain in an appreciable group of cases and should be tried where more conservative treatment has been unsatisfactory.

Treatment of acute gonorrheal arthritis using the above measures along conjunctive lines produced good results in a series of 31 cases.

5.—Brilliant results have been noted from monoiodocinchophen in cases of epididymitis. Prompt relief of pain and an early resolution were outstanding factors.

### Causes of Death in Children

A review of the records of 1,000 consecutive necropsies on children, as reported by Dr. I. M. Epstein, of Chicago, in *Am. J. Dis. Child.*, June, 1931, shows that the most frequent causes of death are as follows:

	Males	Females	Total
Pneumonia .....	90	67	157
Tuberculosis .....	55	41	96
Septicemia .....	47	36	83
Congenital			
malformation .....	36	44	80
Intoxication .....	45	25	70
Purulent meningitis.....	37	27	64
Contagious disease.....	30	17	47
Heart disease			
(acquired) .....	13	29	42

In deaths during the first six years of life, boys outnumbered girls in about the same proportion in every disease with the exception of congenital malformation. This preponderance of male deaths in infancy is in agreement with vital statistics.

In the deaths from the sixth to the thirteenth year the girls outnumbered the boys.

### Incipient Beri-Beri

In *Ann. Intern. Med.*, April, 1931, Dr. W. S. Sargent, of Guam, reports the cases of 2 Japanese, whose food for 4 months consisted almost exclusively of polished rice and fish and who came for treatment owing to swollen lower limbs and general debility symptoms.

Examination of the urine ruled out nephritis; the absence of the Argyll-Robertson pupil, Romberg sign and pain ruled out tabes; the history, absence of digestive symptoms, the lack of tremors, the normal mentality and the vagus involvement tended to rule out alcoholic neuritis; the vasomotor phenomena present, the absence of puffy eyelids and pigmented skin ruled out arsenical neuritis; the absence of colic, basophilia, blue line on the gums and the involvement of the lower extremities, rather than the upper, helped to rule out lead poisoning; negative stool findings and the neurologic findings spoke against hookworm disease.

With the edema, the altered sensation, the poor reflexes, the signs of vagal involvement, the weakness and the history, the author felt

that he could make a diagnosis of early beri-beri. This diagnosis was proved by the improvement under a suitable diet.

### Common Errors in Diagnosis of Heart Disease

In *New York St. J. Med.*, Aug. 1, 1931, Dr. L. H. Sigler, of Brooklyn, dwells on certain errors common in cardiac diagnosis.

Errors arise from a misunderstanding of the normal, in regard to both size and shape and in rate and rhythm of the heart beat. But *there is no normal*, and the heart that agrees with so-called normal standards may be the seat of grave myocardial disease. Other clinical manifestations of cardiac disease should be searched for.

The heart murmur is, by far, the greatest source of error in cardiac diagnosis, and many a false conception is formed on account of its presence. But in a great many cases the murmur has no pathologic significance. The author feels that any murmur not associated with any cardiac enlargement or definite change in the configuration of the heart is to be considered to be of no pathologic significance and should be disregarded. Exceptions to this rule are murmurs heard in some forms of congenital abnormalities of the heart, where there may not be any enlargement.

Another common cause of error is the improper correlation of disease elsewhere with heart reaction, especially conditions arising from reflex, toxic and infectious states.

Errors arise also from an improper conception of cardiac pathology and the too-frequently-used and misapplied terms: chronic myocarditis and angina pectoris. The author remarks that, if all the cases so diagnosed should come to autopsy, probably 80 percent would not show any evidence for the syndromes mentioned. The term angina pectoris should be entirely discarded from medical literature as meaning nothing. At most it should be only a part of the cardiac diagnosis.

### Vitamins

In *M. J. & Record*, June 3, 1931, Walter H. Eddy, of New York, reviews the present-day aspects of the vitamins.

Regarding vitamin A he thinks that the outstanding discovery has been the relation between this vitamin and carotene. Tests on pure crystalline carotene tablets in rats show that carotene runs far over 20,000 vitamin A units per gram, which is far in excess of cod-liver oil or its concentrates.

Palm oil oleomargarine is another new source of vitamin A.

Eddy says: "If we put together the carotene discoveries, the progress in refining and selection of cod liver oil of high vitamin A potency, the increasing success of the concentrate makers in separating vitamin A from cod liver oil and maintaining it in stable tablets and ampules and those newer excursions in the oleo field with the increasing evidences of the importance of vitamin A to protection against colds, sinus infections, kidney and bladder infections, tuber-

culosis and even deafness of certain infectious origin, the field of exploitation of vitamin A preparations for human health protection becomes much enlarged."

Recent investigations regarding the importance of vitamin C in connection with dentition are discussed at length by Eddy. He says: "We are under no illusions that vitamin C is the only factor concerned in the production and maintenance of a healthy tooth. Adequate supply of calcium and phosphorus, vitamin D, vitamin A, vitamin B as well as vitamin C have a role in tooth architecture and defence against invading bacterial acids. Increase in vitamin C or any of the other vitamins will not alone produce an immune tooth, and I cannot see in this new data any suggestion that oral hygiene will be any less important in the future than it is now. But out of these tooth studies is emerging the hope that we may by knowledge of the factors that control tooth structure, hope to eliminate in the future some of the 'bad' teeth: build better and more resistant teeth."

### The Present Treatment of Diabetes

Summing up the present-day position and prospects of the diabetic patient, Dr. E. P. Joslin, of Boston, states, in *J.A.M.A.*, Aug. 29, 1931, that a growing percentage of diabetic patients now outlive their life expectancy; diabetic mortality has decreased in the young; and its rise in the old is largely to be explained, not by an increase in the disease, but rather because of an increase in the number of known diabetic patients, due to the general lengthening of life in the whole population. The total number of people aged 50 and over is today much greater than formerly.

The use of insulin has permitted physicians steadily to increase the amount of carbohydrates in the diet. Visiting diabetic nurses should be available for the general practitioner, because they will, not only save his time, but also carry into the homes of the patients ideas about insulin and diet and the avoidance of coma and gangrene.

The treatment of diabetes fails largely because of remediable faults. When the blood-sugar percentage is known, treatment can go ahead boldly and scientifically. If the physician in the country is expected to treat his patients as well as the physician in the city, he must be given the same advantages which are given to the city physician. He must have a laboratory within reach and available day and night. Too-great notice should not be taken of a blood-sugar level a trifle above normal, if the urine is sugar-free.

Ten years ago a diabetic patient was regarded as a grave surgical risk, but today it is a graver medical risk to avoid surgery. Cooperation between physician and surgeon, close observation of the urine and of the blood for the first few days after operation, provision for from 50 to 100 Gm. of carbohydrate to maintain nutrition and, along with it, insulin, if necessary, to promote its utilization and thus avoid acidosis, are factors that make surgery safe in diabetic patients.

Send for your copy of "What About Heart Diseases." Educate your patients.

### The Use of Obstetric Forceps

As a result of research, in the Obstetrical Unit of the Royal Free Hospital, London, into the causation of fetal death, it was found that the best results can be obtained by the application of the blades of the forceps in the biparietal diameter, with the head as near complete flexion as possible. It allows the occipito-bregmatic diameter to take the strain as the head passes through the outlet. Not only is this the shortest diameter but it is the most resistant to pressure.

Too rapid extraction of the head by forceps should be avoided, as this does not give time for the intermittent relaxation which occurs during normal delivery. After applying the blades, the screw should be tightened and traction used during the uterine contractions. During the intervals the screws should be loose, so that expansion of the head may take place. In this way, recovery from the intermittent pressure is obtained. Delivery should be slow and no undue traction should be permitted.

It is a common mistake to deliver by forceps within a few minutes. It may take  $\frac{1}{2}$  hour to 1 hour in some cases to ensure successful results. In the case of a premature infant, forceps are contra-indicated in most cases but, if applied, the traction should be as gentle as possible, as the fetal head is so easily damaged.—DR. LOUIS MCILROY, of London, in *Practitioner*, June, 1931.

### The Vitamin A and D Content of Some Margarines

In *Am. J. Physiol.*, Feb., 1931, Dorothy Fetter and A. J. Carlson of the University of Chicago, report that the vitamin A and vitamin D contents of two common margarines were assayed for these vitamin values, in comparison with those of butter, by the standard feeding tests on rats. The fat in one of these margarines was coconut oil and that of the other oleo oil and lard.

As tested, the animal fat margarine churned in whole milk is equal to butter in vitamin A content. The margarine with coconut oil as the fat content is very deficient in vitamin A.

As tested by the cure of rickets in rats, the oleo oil-lard-milk margarine studied is superior to butter in vitamin D content.

### The Use of Sulphur for the Production of Fever

The therapeutic use of injections of sulphur has been known for some time. Schröder appears to have been the first, in 1927, to use injections of sulphur in oil for the production of fever in the treatment of syphilitic manifestations of the central nervous system.

In *Arch. Neurol. and Psychiat.*, July, 1931, Dr. R. P. Mackay, of Chicago, reports that, following experimental and clinical work, he finds many advantages in the production of pyrexia by sulphur-in-oil injections, over that produced by bacterial vaccines and malaria. In the case of sulphur, he is of opinion that the resulting fever is a protein reaction and is thus a biologic rather than a chemical phenomenon.

A 1- or 2-percent solution of sublimed sulphur in sterile olive oil is used, intramuscularly, the initial dose being usually 0.5 cc. of the 1-percent solution. In subsequent injections the dose is generally increased by 0.5 cc., depending on the patient's reaction.

Fever usually appears in from 6 to 18 hours after injection, reaching 103° to 105°F., and subsides to normal in about 48 hours. The second and subsequent injections are made when the temperature subsides to normal. There are no chills and, as a rule, the reactions are of small consequence. There is a very marked polymorphonuclear leukocytosis.

The author is of opinion that fever produced by injections of sulphur seems capable of effecting the same therapeutic results that any other form of fever can produce. It is chiefly of value, according to Dr. Mackay, in cases of dementia paralytica in which malaria is indicated, and in many ways is superior to malaria, especially in the hands of the average physician. By virtue of the long duration of the fever produced, sulphur should bring results more rapidly and surely than any other method.

### Cancer of the Stomach in Physicians

That ordinary lay patients with cancer of the stomach should defer examination and treatment is not surprising, when able physicians do the same thing.

In *J.A.M.A.*, July 11, 1931, Dr. W. C. Alvarez, of the Mayo Clinic, reports that forty-one (41) consecutive case histories of physicians with cancer of the stomach have been analyzed. The patients were all operated upon at the Mayo Clinic in the last seven years.

In 20 cases, the symptoms were of fairly short duration, with an average of about twelve months. In 8 of these the duration was five months or less. One patient never, at any time, suffered with indigestion. Often it was hard to understand how a physician could have let himself go for so long a time without a roentgen-ray examination. Able clinicians in large cities were just as careless about their health as were general practitioners in the "backwoods."

In some cases the final disaster was due to the fact that the patient had always been bothered by chronic indigestion, and hence failed to become alarmed when the symptoms changed in character and became more severe.

In 7 cases it is almost certain that the cause of the first symptoms of indigestion was an ulcer; in 5 additional cases it may well have been an ulcer; and in 9 others the early symptoms of cancer were more or less characteristic of ulcer.

In 4 cases the preoperative diagnosis at the Mayo Clinic was gastric ulcer, and in 4 others the diagnosis of cancer was made only at operation. In still another case the patient had been operated upon elsewhere, for gastric ulcer, without the true nature of the disease being recognized. Altogether, the question of ulcer intruded itself into the diagnosis in half of the cases, and in many instances the too-ready acceptance of a diagnosis of ulcer by the patient and his advisers led to the final disaster.

It seems obvious that the only way in which one can hope to cure cancer of the stomach

is to excise it during the stage in which it looks and behaves like a benign ulcer. It would help much if every disturbance of digestion that appears suddenly in a middle-aged or elderly man or woman would be looked on with grave suspicion. It is the patient with the short history that the experienced gastroenterologist has learned most to fear.

### The Third Stage of Labor and Blood Loss

In *Am. J. Obstet. & Gynec.*, Feb., 1931, Drs. L. A. Calkins, J. C. Litzberg and E. D. Plass, say that the important and uncontrollable factors materially influencing blood loss are stature of the mother and stature of the child. These, along with duration of the third stage of labor, seem to account for most of the variation in blood loss in women delivered spontaneously and without severe laceration.

With regard to the third stage of labor, the authors recommend the following technic:

Immediately upon the birth of the baby, the fundus is carefully located and is held constantly until the placenta is separated and expressed and bleeding thoroughly controlled. Care is taken not to massage the uterus unless there is evidence of considerable softening or actual bleeding. As soon as there is evidence of placental separation, the organ should be expressed by squeezing the uterus and making moderate downward pressure. Immediately following the delivery of the placenta, firm contraction of the uterus should be produced by (1) the administration of pituitrin, hypodermically, and (2) moderately vigorous massage of the uterus. This massage is probably more important than the pituitrin. The uterus should be watched closely for at least one hour following delivery. Ergot may also be given, at the discretion of the obstetrician. At the end of one hour, all clots should be expressed from the uterus and vagina.

### Functional Sterility

In an article in *Am. J. Obst. and Gynec.*, July, 1931, by Drs. C. Mazer and I. Andrusier, on the incidence, diagnosis and treatment of functional sterility, they point to the dependence of ovarian function upon hormonal stimulation from the anterior pituitary gland and the compensatory hyperfunction of the latter in cases of primary ovarian failure.

The normal menstrual cycle depends upon the balanced activity of two ovarian hormones: the female sex hormone, generated by the graafian follicle, produces growth and vascularization of the uterus; the lutein hormone, generated by the corpus luteum, produces premenstrual endometrial changes preparatory to the reception of a fertilized ovum.

Evidence is given that 16 of a group of 37 regularly menstruating sterile women were probably subject to anovular menstruation, as shown by the simultaneous absence of a premenstrual endometrium and a demonstrable quantity of female sex hormone a day or two before the onset of the expected flow.

The Frank and Goldberger test for the blood

level of female sex hormone is of great value in the diagnosis of functional sterility in regularly menstruating women, but is of little value in the diagnosis of this condition associated with menstrual derangements.

The recovery of a demonstrable quantity of anterior pituitary sex hormone from the blood of women suffering from functional sterility is pathognomonic of primary ovarian failure. Normal fertile women and those suffering from pituitary hypofunction rarely, if ever, show a demonstrable quantity of the hormone except during pregnancy.

Low-dosage irradiation of the affected endocrine glands was successful in reestablishing menstrual periodicity in more than 50 percent of 38 women thus treated; organotherapy is far less effective. The number of succeeding pregnancies is relatively equal in the two groups treated, respectively, by x-ray stimulation and organotherapy.

### Watermelon Seed Extract in Treatment of Arterial Hypertension

A study of the effects of watermelon seed extract (cucurbitacin), on 29 patients with varying degrees of arterial hypertension, is reported by Drs. S. L. Gargill and A. Rudy, of Boston, in *Am. J. Med. Sc.*, May, 1931.

Only 7 of the 29 patients (24 percent) showed a reduction in systolic blood pressure of 25 mm. of mercury or more. Six of these patients belonged in the group of mild hypertension. Only 2 patients experienced complete symptomatic relief. In 10 patients the relief of symptoms was so slight as to be negligible.

The favorable effect after termination of treatment was maintained for a month or more in only 2 patients. In all the others the effect of treatment lasted one to two weeks.

The characteristic spontaneous variability of the blood pressure in patients with arterial hypertension is discussed, and its importance in the evaluation of therapeutic results is emphasized.

Our experience with cucurbitacin has not convinced us that it is of value in the treatment of arterial hypertension, as reported by some previous investigators.

### Pernicious Anemia Treated with Massive Doses of Liver Extract

In *Am. J. Med. Sc.*, May, 1931, Drs. J. E. Connery and L. J. Goldwater, of New York, report 4 cases of pernicious anemia treated with: (a) transfusion, plus massive dosage (42 vials) of a mammalian liver extract; (b) massive dosage (50 vials) of a mammalian liver extract alone; and (c) with massive dosage (30 vials, repeated) of a fish-liver extract alone. In all patients there occurred promptly a reticulocyte response and an increase in the red-cell count and in the amount of hemoglobin.

Two of the cases showed well-marked leukocytosis and "shift to the left" of the granulocytes. Another showed slight increase in the total number of leukocytes and decrease in the number of lymphocytes, with an increase

in the number of granulocytes, but no "shift to the left."

In all four cases there occurred the anticipated and usual clinical improvement. As was to be expected, the improvement of symptoms and signs dependent on neurologic involvement was least marked.

One patient developed a surgical complication, which necessitated operative intervention. Convalescence in this patient was uneventful and was attended by no striking alteration in the blood picture. This patient also showed an eosinophilia, not of a high magnitude. In this case, thirty-five days elapsed before the red cells reached the 4 million level, and the red count remained at or above this level for a period of thirty-five days more. At this time the above-mentioned surgical complication occurred, so that we are left to speculate upon how long this level might have been maintained.

### Prophylaxis in Obstetrics

In *Illinois M. J.*, Sept., 1931, Dr. F. F. Maple, of Chicago, states that in the United States 20,000 women die each year from puerperal infections and obstetric accidents; that the annual puerperal morbidity will run into 250,000. Forty-three (43) percent of the childbirth death rate is laid to puerperal infection.

Prevention of infection is best arrived at by following these rules of hygiene of pregnancy:

- 1.—Clear up local infection.
- 2.—Improve resistance. Add good nursing, liquid diet, sponging and sedatives.
- 3.—Conduct labor by simple aseptic technic. Rectal examinations always; the only indications for vaginal examination being prolapse of the cord, hemorrhage or stopped labor.
- 4.—Vaginal examination only after regular surgical preparation, as good as you would use for a laparotomy.
- 5.—Limit obstetric wounds, and prevent their infection. Trauma is the most important cause of fatal sepsis.
- 6.—Do not hurry normal labor.
- 7.—Conserve the bag of waters.
- 8.—No bearing down until the cervix is dilated.
- 9.—No ergot until the placenta is out.
- 10.—Do not force the Credé maneuver.
- 11.—Repair all tears and episiotomy wounds.
- 12.—Limit forceps to strict indications.

The commonest agent of infection is the physician or midwife—75 percent. Three-fourths of puerperal infection is due to failures of technic.

Three principles should be followed in the prevention of puerperal infection: (1) Preserve the general immunities; (2) preserve the local immunities; (3) maintain the strictest possible aseptic technic.

The third stage should be conducted on a physiologic basis, interfering only when indicated by the existing circumstances. Use manual removal of the placenta only if there is excessive uterine bleeding or pathologic adhesions.

### Socalled "Chronic" Appendicitis

From a clinical study of 100 cases, in which appendectomies had been performed for so-called chronic appendicitis, as well as from a survey of the literature, Drs. J. Friedenwald and T. H. Morrison, in *Ann. Intern. Med.*, July, 1931, report the following conclusions:

1.—Chronic appendicitis, when considered purely from a clinical standpoint, is not as usually held. That it does, however, occur is evidenced by the complete and permanent relief at times afforded by appendectomy.

2.—The symptoms produced by so-called chronic appendicitis usually occur as: (1) the result of either widespread disturbance involving other abdominal organs, not limited to the appendix itself; or as (2) forms of neuralgia occurring in the abdominal wall. The method of examination as advised by Carnett should always be followed in differentiating these conditions.

3.—The roentgen-ray signs are usually misleading and difficult of interpretation, and can therefore be regarded as of minor significance only.

4.—Individualization is of paramount importance. The diagnosis should never be made except following prolonged intensive study of the patient and should always be regarded with suspicion unless a history of preceding acute or recurring attacks can be elicited.

In the 100 cases under discussion, the following diagnoses were finally established:

Peptic ulcer .....	24
Cholecystitis and cholelithiasis.....	21
Renal and ureteral disease.....	4
Pelvic disease .....	2
Colitis .....	11
Neuralgia of the abdominal wall.....	14
Carcinoma of the cecum.....	2
Tuberculosis of the cecum.....	1
Abdominal adhesions .....	19
Hernia .....	2

### Acute Pancreatitis

In *Illinois M. J.*, Aug., 1931, Dr. P. E. Hopkins, of Chicago, gives the following conclusions reached from a study of acute pancreatitis:

1.—Acute pancreatitis constitutes a condition which may vary in severity from that of an exceedingly rapid fatal outcome to that of a much more common milder grade.

2.—The diagnosis, especially with the newer blood amylase viscosity determination, will become more frequent and accurate.

3.—Biliary tract involvement is associated in a majority of cases.

4.—Deferred surgical intervention probably offers the greater hope, in the light of present knowledge.

5.—Prophylactically, the surgical care of biliary tract involvement may lessen the incidence of acute pancreatitis.



## NEW · BOOKS

All that mankind has done, thought, gained or been is lying, as in magic preservation, in the pages of books.—THOMAS CARLYLE.

### Stevens: Practice of Medicine

THE PRACTICE OF MEDICINE. By A. A. Stevens, A.M., M.D., Professor of Applied Therapeutics in the University of Pennsylvania, Philadelphia; Visiting Physician to Philadelphia General and University Hospitals, Consulting Physician to St. Agnes' Hospital, Philadelphia. Third Edition, Entirely Reset. Philadelphia and London: W. B. Saunders Company. 1931. Price \$8.00.

The third edition of Stevens' "Practice of Medicine" has been completely revised and much extended. The new matter includes descriptions of psittacosis, toxoid prophylaxis of diphtheria, immunization to scarlet fever and measles, massive collapse of the lung, hypoglycemia of endogenous origin, hypo- and hyperparathyroidism, Niemann-Pick splenomegaly, spontaneous subarachnoid hemorrhage, hereditary atrophy of the optic nerve and several other less known conditions.

The book is written in a conservative style presenting the facts and the present aspects of the practice of medicine without dogmatism; while it gives a logical basis for the opinions expressed and the treatments described, it leaves the reader free to judge from his own experience.

The infections, diseases of the digestive system, diseases of the respiratory tract and diseases of the nervous system are treated in a particularly full manner.

In every way Dr. Stevens' book can be recommended to practitioners and students as an excellent exposition of the art of medicine, according to present-day view points. Though there are more than 1100 pages, the volume is not at all unwieldy.

### Jordan: Bacteriology

A TEXT-BOOK OF GENERAL BACTERIOLOGY. By Edwin O. Jordan, Ph.D., Professor of Bacteriology in the University of Chicago and in Rush Medical College. Fully Illustrated. Tenth Edition, Entirely Reset. Philadelphia and London: W. B. Saunders Company. 1931. Price \$6.00.

Jordan's "Textbook of General Bacteriology" is a standard for students of the subject, including medical students.

The present (tenth) edition has been thoroughly revised to accord with the progress of knowledge. The sections on variation, on undulant fever, on the paratyphoid group, on filterable viruses, on pathogenic yeasts and on anaerobes have been rewritten and other sections more or less extensively modified.

The pathogenic bacteria receive particular attention, especially the staphylococci, streptococci, pneumococci and gonococcus. The chapters dealing with the corynebacterium (diphtheria), the eberthella (typhoid and dysentery), the microbacterium (tubercle bacillus), the pathogenic spirilla, the parasitic protozoa and the filterable viruses, contain much new and interesting matter, and these chapters will naturally be of the most interest to medical students.

While not a complete treatise on bacteriology—for which several large volumes would be required—the book is a handy compendium which gives all the essentials for a general knowledge of all phases of the subject.

### Cawadias: Therapeutics of Internal Diseases

THE MODERN THERAPEUTICS OF INTERNAL DISEASES: An Introduction to Medical Practice. By A. P. Cawadias, O.B.E., M.D. (Durh. and Paris), M.R.C.P. (London), formerly Chief of the Therapeutical Clinic of the Faculty of Medicine of the University of Paris; Formerly Senior Physician and Lecturer for Internal Diseases, Evangelismos Hospital, Athens; Fellow of the Royal Society of Medicine; Hon. Secretary Section of History. New York: William Wood and Company. 1931. Price \$3.75.

Dr. Cawadias stresses the newer present-day conception of therapeutics—the study of the individual as a whole, rather than the search for symptom complexes.

In the essays which form this book he pleads for the re-introduction of Hippocratic principles for the neo-Hippocratic diagnosis of the person. There is no place in modern medicine for physicians of one organ or of one method of treatment. The narrow medical specialties belong to the past. Patients, not diseases, should be treated. What Dr. Cawadias really sees is a new philosophy of medicine, unless it be a revival of the ancient Greek philosophy of medicine as applied to internal diseases. Symptoms and laboratory findings are only particular expressions of disordered individualities.

The book is intended as an introduction to the study of the practice of medicine. Unfortunately, students of medicine, like other students, are not as a rule at the age of criticism and cultural maturity in which philosophic maxims have weight. The principles laid down in these pages will, therefore, be read and weighed with more interest, in the retrospective light of ac-

quired experience, by the mature physician. However, there is no reason why professors of general medicine, and of therapeutics in particular, if they choose to accept them, should not embody the underlying principles of individualistic study of patients, as suggested by Dr. Cawadias, in their lectures. It is a question of what we consider the art of the practice of medicine really is.

### Cantarow: Calcium Metabolism and Therapy

**CALCIUM METABOLISM AND CALCIUM THERAPY.** By Abraham Cantarow, M.D., Assistant Demonstrator of Medicine in The Jefferson Medical College, Philadelphia. With a Foreword By Hobart Amory Hare, B.Sc., M.D., LL.D., Professor of Therapeutics, Materia Medica and Diagnosis in The Jefferson Medical College, Philadelphia. Philadelphia: Lea & Febiger. 1931. Price \$2.50.

In this book Dr. Cantarow supplies knowledge which is generally lacking as to the use and properties of calcium in medicine. The facts are set forth clearly and concisely regarding the physiologic and therapeutic value of this important element. Dr. Cantarow's experience, in the laboratory and at the bedside, has qualified him to recognize the difficulties of calcium metabolism and medication, to solve questions of administration and dosage and to suggest guides that will make the employment of calcium a sure rather than a haphazard procedure.

There are three parts: Part I deals with normal calcium metabolism including blood serum calcium; Part II covers abnormal calcium metabolism, including blood-metabolism; Part III is devoted to calcium therapy.

### Sutton: Diseases of the Skin

**DISEASES OF THE SKIN.** By Richard L. Sutton, M.D., Sc.D., LL.D., F.R.S. (Edin.), Professor of Diseases of the Skin, University of Kansas School of Medicine; Assistant Surgeon, United States Navy, Retired; Member of the American Dermatological Association; Dermatologist to the Santa Fe Hospital Association, etc. With 1290 Illustrations, and 11 Colored Plates. Eighth Edition, Revised and Enlarged. St. Louis: The C. V. Mosby Company. 1931. Price \$12.00.

Dr. Sutton's textbook on diseases of the skin has run into eight editions since its first issue in 1916. This demonstrates two facts: That dermatology is rapidly extending and changing its conceptions, and that the book has been recognized as an authoritative one on this subject.

No one who has followed the trend of medical literature during recent years could fail to notice that cutaneous diseases, considered either as pathologic manifestations of the special skin structure itself or as localized expressions of internal conditions, have become of widened interest to general practitioners. Metabolic disorders, deficiency diseases and endocrine dysfunctioning, all have distinct reflexes in the skin. In the present edition of his book, Dr. Sutton has dealt very fully with these newer aspects of dermatology and has revised every

chapter to bring the work into thorough accord with the most recent laboratory and clinical findings.

The practical aspect is kept in view constantly; theoretic matter is minimized. As a result of revision and the use of a thin paper, the bulk of the volume has been considerably reduced.

While this is essentially a descriptive textbook for the dermatologic specialist and student, general practitioners who need a good volume on skin diseases to refer to will find everything they need here.

The general bookwork is excellent; the profuse and clear illustrations are unusually significant and deserve a special mention of approbation.

### Hunter: Surgical Anatomy

**AIDS TO SURGICAL ANATOMY.** By Richard H. Hunter, M.D., M.Ch., Ph.D., Lecturer in Anatomy, Queen's University, Belfast; Sometime Examiner in Anatomy for the Primary Fellowship of the Royal College of Surgeons in Ireland; Author of "A Short History of Anatomy," "Aids to Embryology," Etc. New York: William Wood and Company. 1931. Price \$1.50.

An outline or quiz compend of surgery and surgical anatomy which, although written primarily for British students preparing for examination, may be used profitably by any surgical student or interne.

### Lewis & Crozier: Medical Treatment

**AIDS TO MEDICAL TREATMENT.** By J. T. Lewis, M.D., B.Sc., M.R.C.P., Lond., Assistant Physician, Royal Victoria Hospital, Belfast; Bacteriologist to the Belfast Infirmary and T. H. Crozier M.D., D.P.H., M.R.C.P., Lond., Visiting Physician to the Belfast Infirmary; Assistant Physician, Belfast Hospital for Sick Children. New York: William Wood & Company. 1931. Price \$1.50.

This little outline of the main facts concerning medical therapeutics and of general medicine will be of value to students, nurses, etc., especially those preparing for examination.

### Pelouze: Gonorrhea

**GONORRHEA IN THE MALE AND FEMALE. A Book for Practitioners.** By P. S. Pelouze, M.D., Associate in Urology and Assistant Genito-Urinary Surgeon at the University of Pennsylvania; Fellow of the Philadelphia College of Physicians. Second Edition, Revised, Illustrated. Philadelphia and London: W. B. Saunders Company. 1931. Price \$5.50.

The first edition of Dr. Pelouze's work on gonorrhea was reviewed in *CLINICAL MEDICINE AND SURGERY*, August, 1928. In this, the disease was dealt with only in relation to male patients. In the second edition gonorrhea in the female is also included and the text has generally been extended.

As stated formerly, Dr. Pelouze is of the opinion that the overwhelming majority of cases of gonorrhea are first seen and treated by gen-

eral practitioners, who have no definite plan in regard to its handling by modern conceptions and methods. The standard treatments recommended in textbooks are too many, not sufficiently differentiated in value and leave the practitioner confused.

In this book Dr. Pelouze does not follow conventionalities. He writes from his own convictions and experience and in plain language describes a definite mode of treating gonorrhea which accords with our present knowledge of the disease, gives results and may be followed by any practitioner.

### Vaughan: Allergy

Allergy: A Handbook for the Physician and Patient on Asthma, Hayfever, Urticaria, Eczema, Migraine and Kindred Manifestations of Allergy. By Warren T. Vaughan, M.D., F.A.C.P., Associate Editor *Journal of Allergy*. Illustrated. St. Louis: The C. V. Mosby Company, 1931. Price \$4.50.

The book shoots at a double target with considerable success.

Hayfever is a disease, in the treatment of which intelligent cooperation of the patient is absolutely necessary, so the more information the better for all concerned. The wide variety of substances to which allergic persons are sensitive, the extreme variation in individual sensitivity and the geographic distribution of pollen-producing flora, demand for each case the utmost attention of both physician and patient.

Doctor Vaughan's book is an outline of the everyday experiences of the men who are studying the problem of allergy in all its aspects, in all parts of the United States.

The writer has "grown up" with the pioneers in this field, the book "Protein Split Products," by his father, Victor C. Vaughan, having been the inspiration of more than one of these pioneers. Fortunately, there are no new theories propounded and the old ones are dressed in everyday clothes. There is a minimum of theory and a maximum of practical, interesting, readable experience; also much botanical information, useful in the diagnosis of hayfever, and a great deal is said about the handling of allergic patients by methods other than desensitization.

A physician might wish more details on specific desensitization, but the short chapter on this subject under the heading, "Physiologic Readjustments" contains the fundamental principles from which to work out an individual schedule for each patient.

O. C. D.

### Surgical Clinics of North America

THE SURGICAL CLINICS OF NORTH AMERICA. Mayo Clinic Number, Volume 11, Number 4, August, 1931. Philadelphia and London: W. B. Saunders Company. Issued serially, one number every other month. Per Clinic year, February, 1931 to December, 1931; Paper \$12.00, Cloth \$16.00.

The August, 1931, number of the *Surgical Clinics of North America* is devoted to contributions by members of the Mayo Clinic.

This issue is distinguished by the large num-

ber of short clinical observations (mostly of unusual types of case), more than by thoroughly digested contributions of new or improved methods in the surgery of commonly-met conditions; it will, therefore, perhaps, be of less interest to the general practitioner than preceding numbers of this excellent serial.

Drs. D. C. Balfour and H. L. Down write on some peculiar cases of gastric and duodenal ulcer. Dr. M. S. Henderson contributes a good clinical paper on "Bucket Handle or Loop Fracture of the Internal Semilunar Cartilage." A paper by Dr. W. McK. Craig, on "Fracture-Dislocation of the Cervical Vertebrae with Injury to the Spinal Cord" will attract attention.

Other notable articles are: "Polyposis and Adenocarcinoma of the Colon," by Dr. C. F. Dixon; "Carcinoma of the Cecum," by Dr. C. F. Dixon and W. L. Nelson; and a most excellent clinical contribution, "Experience with Sodium Ethyl Barbiturate (Nembutal) in More Than 2,300 Cases" by Dr. John S. Lundy.

### A Correction

In the review of "A Diet Book," by Marguerite Requa Rea, published by the Oxford University Press, which appeared on page 459 of the June, 1931, issue of *CLINICAL MEDICINE AND SURGERY*, an error occurred in stating the price as \$2.75. It should be \$2.50.

### Hertzler: Pathology of Male Genito-Urinary Organs

SURGICAL PATHOLOGY OF THE GENITO-URINARY ORGANS. By Arthur E. Hertzler, M.D., Surgeon to the Agnes Hertzler Memorial Hospital, Halstead, Kansas; Professor of Surgery, University of Kansas. 222 Illustrations. Philadelphia, Montreal and London: J. B. Lippincott Company, 1931. Price \$5.00.

This is one of a series of monographs on surgical pathology.

The present volume is written from the viewpoint of the general surgeon. With that object in mind, a great deal of detail on the minute investigations of pathologic entities of the genito-urinary system, of interest only to the specialist, has been eliminated. Only the salient points that every general surgeon should know are emphasized.

The work is divided into ten chapters, which embrace pathologic entities of the various components of the genitourinary apparatus. It begins with diseases of the penis and scrotum and ends with tumors of the kidney. The descriptions are to the point and illuminating.

There are 222 illustrations, all of which are photographs or microphotographs, executed in excellent style, and greatly enhance the value of the text.

Chapter 3, on diseases of the prostate, is exceptionally well written and contains a great deal of worthwhile information pertaining to diseases of this gland. The pathology of such conditions as the various prostatitides and of hypertrophy of the prostate, is well discussed, and also the histology and the secondary results of prostatic hypertrophy.

Particularly pertinent in this connection is a

brief but pregnant discussion of the causes of failure after prostatectomy, in which the author emphasizes that, aside from a wrong diagnosis, the commonest cause of failure to secure satisfactory results after prostatectomy is the development of stone, which is more common when the prostatic bed is packed with gauze to control hemorrhage.

Equally well written are the chapters on diseases of the urinary bladder and kidneys.

The make-up of the book—the printing, binding and paper—is all of excellent quality.

As a ready reference book on the surgical pathology of the genitourinary organs, this volume can be highly recommended to all surgeons, as well as to urologists.

M. T.

### Miner: The Liver Diet

LIVING THE LIVER DIET. By Elmer A. Miner, M.D., Independence, Kansas. With Introduction by William P. Murphy, M.D., Instructor in Medicine at the Harvard Medical School, Boston, Mass. St. Louis: The C. V. Mosby Company, 1931. Price \$1.50.

Dr. Miner, the author of this little book, himself a pernicious anemia patient, who has carried out the liver diet treatment most faithfully and successfully, gives here the details of his own experience. He has collected all facts available in regard to diet lists, including the use of liver in various forms, together with a large number of cooking recipes, and other information which will be of value to those suffering from pernicious anemia or other conditions in which the liver diet is judged of service.

The Minot-Murphy liver diet is used throughout the work.

### Cooper & Appleyard: Pharmaceutical Chemistry

PRACTICAL PHARMACEUTICAL CHEMISTRY. By J. W. Cooper, Ph.C., Pharmacist, Leeds Public Dispensary, Special Lecturer in Pharmacy, Bradford Technical College, etc. and F. N. Appleyard, B.Sc. (Lond.) F.I.C., Ph.C., Head of the Department of Pharmacy, Bradford Technical College, etc. London and New York: Isaac Pitman & Sons, 1931. Price \$1.75.

The writers, who are practical pharmacists and teachers of the subject in technical institutes, have prepared this course of practical pharmaceutical chemistry, which is equally valuable for study or reference. While it is planned to meet the special needs of the practical pharmacist with the greatest economy of time, it should be of great value to students of pharmacy preparing for examination in this particular branch of their technical studies.

### Communicable Disease Control

COMMUNICABLE DISEASE CONTROL. Report of the Committee on Communicable Disease Control of the White House Conference on Child Health and Protection. New York: The Century Company, 1931. Price \$2.25.

This volume, the report of the Committee on Communicable Disease Control of the White

House Conference on Child Health and Protection, points out the importance of the control of communicable diseases among children; reviews the current control practices; recommends those practices which experience has indicated are most effective; and suggests fields in which further study is most urgently needed. The report is the fruit of an extensive study, made by a large number of qualified experts, and is probably the most up-to-date and authoritative survey of the subject available. The section on suggested procedures for the control of communicable diseases has been critically considered by the entire Committee, as well as by other authorities to whom it was submitted in advance of publication, and it is believed that it contains the most dependable information obtainable on the control of the different diseases.

Such a work as this is indispensable to all city, village and county health officers and should be in the library of every physician, for his own information and in order that he may give his patients valid instruction.

### Hardwicke: Psychic Phenomena

VOICES FROM BEYOND. By Henry Hardwicke, M.D. Niagara Falls, N. Y.: Harkell Company, Publishers. Price \$1.00.

The reality of psychic or so-called supernatural phenomena is no longer questioned by open-minded persons who have taken the time and trouble to give a little study to the large mass of valid evidence which is now available. But many sincere men, who would like to know, do not know just where to find this material, and even if they had it at hand might find it a bit formidable for a beginner.

Dr. Hardwicke has prepared this little volume for such people as these, to show them that psychic phenomena are not all charlatany and illusion. It is written in the form of a story, which holds the interest of the reader, but the facts stated and the quotations given are all thoroughly valid.

This book is cordially recommended to all sincere and unprejudiced seekers after truth, who would like to read a brief and simple, but sound, presentation of the elementary facts of psychic phenomena.

### Bierce: Correct Writing

WRITE IT RIGHT. A Little Blacklist of Literary Faults. By Ambrose Bierce. New York: Walter Neale, 37 East 28th Street. Price \$1.00.

Every physician is, or should aspire to be, a writer, for the preparation, presentation and publication of medical articles constitute the chief and easiest ethical road to professional reputation.

The inexperienced writer, especially if his studies in English grammar and rhetoric are far behind him (and were never very interesting, at best), is apt to fall into errors of expression which at once reveal his inexperience in this line.

Here is a little volume prepared, by a master of the craft, as a help to all who read, speak and write. In it he has corrected—often in a pleasingly humorous manner—a considerable

number of the most common errors of usage, with explanations as to why they are wrong. It is pleasant and profitable reading for anyone, and a real godsend to those who aspire to write and speak better English.

### Beardwood & Kelly: Simplified Diabetic Management

**SIMPLIFIED DIABETIC MANAGEMENT.** By Joseph T. Beardwood, Jr., A.B., M.D., F.A.C.P., Chief of Diabetic Clinic and Associate Visiting Physician Presbyterian Hospital in Philadelphia; etc. and Herbert T. Kelly, M.D., A.A.C.P., Associate in Diabetic Clinic, Presbyterian Hospital in Philadelphia; Associate in Cardiology, Graduate School of Medicine University of Pennsylvania and in the Philadelphia General Hospital. *Diets Prepared With the Collaboration of* Elsie M. Watt, A.B., Formerly Dietitian Diabetic Clinic Presbyterian Hospital in Philadelphia. Illustrated. Philadelphia and London: J. B. Lippincott Company. 1931. Price \$1.50.

The methods outlined by the authors have been found helpful by them in clinic and private practice and, while intended especially for the use and instruction of diabetic patients, physicians will find here much of value in their management of such cases.

Dietary discrimination is the chief measure advocated. The "line ration scheme" of Lawrence has been found by the authors the most satisfactory means of instructing patients.

The matter of the book has been divided into three chapters. The first contains the essentials that every diabetic should know to cooperate intelligently in the management of his case.

The second chapter contains information which will be of interest and benefit to the well-trained diabetic and which the physician will find helpful. In the third chapter are grouped the various food values, recipes and suggested menus; this occupies about half of the book.

This manual of simplified diabetic management may be recommended by physicians to their diabetic patients, whether being treated by diet, by insulin, or by both, although even to a rather intelligent layman much of it may have to be explained by the physician.

### Annual Congress on Medical Education, Licensure and Hospitals

**PROCEEDINGS OF THE ANNUAL CONGRESS ON MEDICAL EDUCATION, MEDICAL LICENSURE AND HOSPITALS.** Chicago, February 16, 17 and 18, 1931. American Medical Association.

This congress is tripartite: it is constituted of the Council on Medical Education and Hospitals of the American Medical Association; the Federation of State Medical Boards of the United States; and the American Conference on Hospital Service. In the Proceedings the deliberations of each of these bodies are kept separate, though all of the papers read at the 1931 Congress and the discussions thereon are published in full.

### Abderhalden: Biologic Research Methods

**HANDBUCH DER BIOLOGISCHEN ARBEITSMETHODEN.** Unter Mitarbeit von über 700 bedeutenden Fachmännern herausgegeben von Geh. Med.-Rat Prof. Dr. Emil Abderhalden, Direktor des Physiologischen Institutes der Universität Halle a. d. Saale. Abt. V. Methoden zum Studium der Funktionen der einzelnen Organe des tierischen Organismus, Teil 8, Heft 5. Berlin und Wien: Urban & Schwarzenberg. 1931. Price RM 4.20.

Chapter 5, part 8, of the Fifth Section of Abderhalden's extensive manual of biologic research methods is devoted to a description by Dr. Plesch of the tonosillographic (sphygmotographic) method of measuring blood pressure and the significance of the blood pressure curve. There are 37 illustrations.

### Kalk: Gastric and Duodenal Ulcer

**DAS GESCHWÜR DES MAGENS UND ZWÖLF-FINGERDARMES UND DAS GESCHWÜR DES OPERIERTEN MAGENS.** Von Dr. med. Heinz Kalk, Privatdozent an der Universität Berlin; Oberarzt der II. Medizinischen Universitäts-Klinik der Charité. Mit 94 Abbildungen im Text. Berlin und Wien: Urban & Schwarzenberg. 1931. Price geh. RM 15.—geb. RM 17.40.—

The author's considerations on the clinical aspects and data of gastric and duodenal ulcer are based principally upon his long association with the diagnosis and treatment of these lesions in the von Bergmann clinic. The evaluation of medical and surgical treatment, the functional results following surgical treatments and the employment of roentgen-ray investigation, in pre-operative and postoperative examinations of ulcer patients, receive special consideration. There is a good bibliography.

The monograph will be found valuable by internists and surgeons who read German.

### Ortner: Differential Diagnosis of Systemic Pains

**KÖRPERSCHMERZEN UND IHRE DIFFERENTIALDIAGNOSTIK.** Von Hofrat Prof. Dr. Norbert Ortner, em. Vorstand der II. med. Klinik der Universität Wien. Vierte, verbesserte Auflage. Berlin und Wien: Urban & Schwarzenberg. 1931. Price RM 30.—, geb. RM 33.—

Professor Ortner is well known as chief of one of the University Medical Clinics in Vienna.

In the present book he gives the main clinical guides for differentiating between diffuse pains, especially of the abdominal region; also for clearly localized pains, giving the precise characters which arise from pains in the different regions of the abdomen especially, as well as the distinguishing marks of pains in other localities and regions of the body, with their clinical significance.

The monograph should be a valuable clinical diagnostic aid for physicians who read German.



## MEDICAL · NEWS



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### Head Nurse, Japanese Red Cross

The international character of the Red Cross is well illustrated by this picture of the head nurse of that organization in Japan, Madam Shige-Ko Hama, who is shown holding her recently-awarded Florence Nightingale Medal for "Services of exceptional merit."

This is the sixth time this medal has been awarded in Japan.

Observance of the Golden Anniversary of the American Red Cross this year marks that society's fiftieth year of service to humanity. Do your bit by joining.

### Wellcome Medal to Col. Skinner

The Henry S. Wellcome medal and a prize of \$500 have this year been awarded to Col. George A. Skinner, Medical Corps, U. S. Army, Chief Surgeon, Seventh Corps Area, Omaha, Neb., for his essay, "The Influence of Epidemic Disease on

Military Operations in the Western Hemisphere." The presentation will be made during the meeting of the Association of Military Surgeons of the U. S., at New Orleans, in November.

### Carbon Monoxide Movie

The Bureau of Mines has made a film "Carbon Monoxide" showing graphically the hazards of that deadly gas, which has been shown to half a million people, with a resultant saving of many lives. The War Department has purchased fifty copies of the film, for showing at all army posts, schools and camps.

This film may be obtained for exhibition by an interested group, at no expense except that for transportation, by writing to the Pittsburgh Experiment Station, U. S. Bureau of Mines, Pittsburgh, Pa.

Here is a suggestion for County Medical Societies who want to do something worth while toward the education of the public in matters connected with the conservation of health and life.

Send for your copy of "What About Heart Diseases." Educate your patients.

### Southern Medical Association

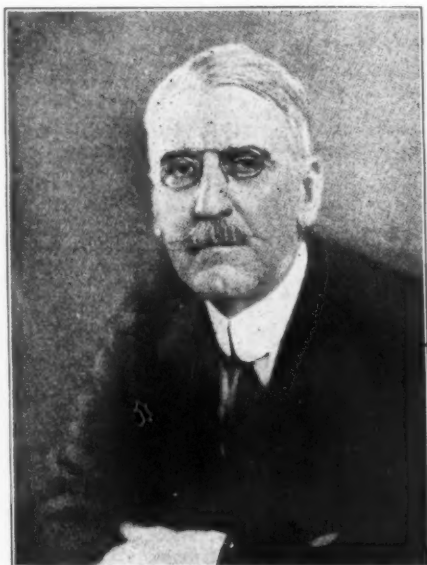
The annual meeting of the Southern Medical Association will be held in New Orleans, La., Nov. 18 to 20, inclusive, 1931. This is one of the important medical meetings of the year. Full details may be obtained from Mr. C. P. Lorz, Empire Bldg., Birmingham, Ala.

### Costs of Medical Care

The reports, which have been issued from time to time during the past two or three years, by the Committee on the Costs of Medical Care, are now available to physicians generally, at reasonable prices, and contain much information of great interest to all physicians.

Those who wish to look into this matter further should write to the University of Chicago Press, 5750 Ellis Ave., Chicago, for a complete list of reports now in print and to be published later.

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John B. Deaver, M.D., Sc.D., LL.D., F.A.C.S., F.A.S.A.

### Dr. Deaver Passes

Dr. John B. Deaver, of Philadelphia, one of the ablest and best known surgeons (and especially surgical teachers) in this country, passed to his rest on September 25, 1931.

Dr. Deaver received his medical degree from the University of Pennsylvania in 1878; his Sc.D. from Franklin and Marshall; and his LL.D. from Villa Nova. He was emeritus professor of surgery at the University of Pennsylvania and chief surgeon at Lankenau Hospital; a fellow of the College of Surgeons and the American Surgical Association. In 1929 he was president of the Interstate Postgraduate Medical Association, at the meetings of which his keen and humorous discussions will be sorely missed.

Dr. Deaver was especially known for his research and practical work on appendicitis, his book on that subject being a standard text, as well as his other published works on surgery.

### Dr. Bergey Goes to Drug House

Announcement is made that D. H. Bergey, B.S., M.D., author of a textbook on bacteriology and other works of importance and formerly professor of hygiene and bacteriology, University of Pennsylvania Medical School, has recently gone to the National Drug Co., Philadelphia, as director of research in biology.

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### Dr. Fantus Takes New Post

Dr. Bernard Fantus, of Chicago, has recently been appointed professor of Therapeutics at the University of Illinois College of Medicine, Chicago, having been called from the associate clinical professorship of medicine at Rush Medical College.

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### International Hospital Association

At the close of the Second International Hospital Congress, held in Vienna, Austria, in June 1931, the representatives of the forty-one countries participating in the Congress voted unanimously to organize an International Hospital Association, for the purpose of furthering world-wide cooperation in all hospital problems, economic, sociologic and hygienic.

Any person directly or indirectly interested in hospitals is eligible to associate membership of the first class, the dues of which are \$5.00 a year, which includes a subscription to the official organ, *Nosokomeion*. Complete information may be obtained from the secretary-general, Dr. E. H. L. Corwin, 2 E. 103d St., New York City.

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Send for your copy of "Who's Your Health Banker." Ready now.

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### Cancer Control

In order that every physician may do his part in disseminating the knowledge which seems to be the main factor in the reduction of the terrible mortality due to malignant diseases, the American Society for the Control of Cancer is distributing free, to physicians and laymen, pertinent literature suited to their several needs. They also have several moving picture films (including the famous Canti film) which are available for showing to professional and

lay audiences, at no cost except for transportation.

Those who are interested (and this should include all physicians) should write to the Association, at 25 West 43d St., New York City, for a list of the literature and services they offer.



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### Semi-Centenary of the Red Cross

This year marks the 50th anniversary of the founding of the American Red Cross, by Clara Barton. Appropriate ceremonies were held in Washington, D. C., to commemorate this event, and a very beautiful memorial postage stamp was issued.

The picture shows (at the left) Dr. Benjamin P. Andrews, who was Miss Barton's physician and helped her to organize the first unit ever to assist in disaster relief; Dr. Max Huber (center), president of the International Red Cross; and Judge John Barton Payne, Chairman of the American Red Cross, all of whom participated in the ceremonies at Washington.

The annual Red Cross roll-call comes between Armistice Day and Thanksgiving, and, this year especially, everyone should do his part generously.

### Bargain Prices at German Spas

The health resorts in Germany are meeting the falling off in business, which comes when the summer tourists leave, by sharp reductions in their charges. The costs of living are also reduced in the off-season months, and there is a wider selection of accommodations. Even transportation charges are said to be lower in the autumn and winter.

### Licensing Specialists

In the Michigan legislature, a bill has been introduced empowering the Medical Licensing Board to adopt minimum requirements for practicing the various specialties and then examine any physician who requests it and give him a certificate if he is found proficient in his special line.

This may not sound like very much, but it is a step in the right direction.

Send for your copy of "What About Heart Diseases." Educate your patients.

### Antiquity of Rickets

The skull of a child who lived in Peru 500 years ago shows signs of rickets, indicating that this childhood disease is not a recent plague.

### United States Civil Service Examinations

The United States Civil Service Commission announces the following-named open competitive examinations:

*Senior Medical Officer*

*Medical Officer*

*Associate Medical Officer*

*Social Worker (Psychiatric)*

*Junior Social Worker*

*Chief Nurse (Indian Service)*

*Head Nurse (Indian Service)*

*Graduate Nurse (Various Services)*

*Graduate Nurse, Visiting Duty (Various Services)*

Applications must be on file with the U. S. Civil Service Commission at Washington, D. C., not later than December 30, 1931, except that the Commission reserves the right to issue subsequent notice closing the receipt of application before that date.

Full information may be obtained from the Secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city or from the United States Civil Service Commission, Washington, D. C.

## Send · For · This · Literature

To assist doctors in obtaining current literature published by manufacturers of equipment, pharmaceuticals, physician's supplies, foods, etc., CLINICAL MEDICINE AND SURGERY, North Chicago, Ill., will gladly forward requests for such catalogues, booklets, reprints, etc., as are listed from month to month in this department. Some of the material now available in printed form is shown below, each piece being given a key number. For convenience in ordering, our readers may use these numbers and simply send requests to this magazine. Our aim is

to recommend only current literature which meets the standards of this paper as to reliability and adaptability for physician's use.

Both the literature listed below and the service are free. In addition to this, we will gladly furnish such other information as you may desire regarding additional equipment or medicinal supplies. Make use of this department.

When requesting literature, please specify whether you are a doctor of medicine, dentistry, medical student, or registered pharmacist, or a nurse.

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| <p>T- 3 Storm Binder and Abdominal Supporter. 4-page folder by Dr. Katharine L. Storm.</p> <p>T- 47 Campho-Phenique in Major and Minor Surgery. Campho-Phenique Company.</p> <p>T- 95 Everything for the Sick. Lindsay Laboratories.</p> <p>T-116 Hemo-Glycogen, The New Product Hemoglobin Compound and Liver Extract. Chappel Bros., Inc.</p> <p>T-120 Building Resistance — Guiatonic, William R. Warner &amp; Co., Ltd.</p> <p>T-196 "Facts Worth Knowing." Intravenous Products Co. of America, Inc.</p> <p>T-258 Prophylaxis. August E. Drucker Co.</p> <p>T-269 Special Course No. VI Traumatic Surgery. Illinois Post Graduate Medical School, Inc.</p> <p>T-271 The Intestinal Flora. The Battle Creek Food Company.</p> <p>T-310 Conclusions from published research of the value of Ceanothyn as a hemostatic. Flint, Eaton &amp; Co.</p> <p>T-318 Blood Clinical and Laboratory Diagnosis. A book of 160 pages by Henry Irving Berger, M.D. Battle &amp; Company.</p> <p>T-347 Graphic Chart of the Treatment of Circulatory Disturbances. Merck &amp; Company.</p> | <p>T-354 Getting the Most Out of Life Stanco, Inc.</p> <p>T-383 Syrup Histosan Controls the Cough in Acute and Chronic Bronchitis, Pneumonia and other Pulmonary Diseases. Ernst Bischoff Co., Inc.</p> <p>T-391 Imhotep Egyptian Medicine Was a quaint Mixture of Rationalism and Magic — Agarol. William R. Warner &amp; Co., Inc.</p> <p>T-392 Arthritis. Its Classification and Treatment. Battle &amp; Co.</p> <p>T-410 Acidosis. A Warning Sign in Pregnancy—Alka-Zane. Wm. R. Warner &amp; Co., Inc.</p> <p>T-414 Laboratory Test in Pictures — Silvogon. Ernst. Bischoff Company. Inc.</p> <p>T-425 Cerebrospinal Fever (Epidemic, Cerebrospinal Meningitis, Meningococcic Meningitis, Spotted Fever), Symptoms and Specific Treatment with Anti-Meningococcic Serum. The National Drug Co.</p> <p>T-456 Science Applied to Tobacco. Health Cigar Company, Inc.</p> <p>T-465 Diagnosis of Cardio-Vascular Diseases, by Henry Irving Berger, M.D. Sultan Drug Company.</p> <p>T-480 The Incidence of Eczema in Skin Diseases in about 20 percent. Bilhuber-Knoll Corp.</p> |
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- T-491 Announcing a New and Better Sedative—Sedormid. Hoffmann-La-Roche, Inc.
- T-504 Bedtime Nourishment. Mellin's Food Co.
- T-524 Balance, the Importance of the Acid-Base Equilibrium of the Body. The BiSoDol Company.
- T-525 The Treatment of Hemorrhage with Therapeutic Notes on the Use of Ceanothyn. Flint, Eaton & Company.
- T-535 Vera-Perles of Sandalwood Compound. The Paul Plessner Company.
- T-539 Burdick Light Therapy Equipment. The Burdick Corporation.
- T-540 Infra-Red Therapy with Burdick Zoolites. The Burdick Corporation.
- T-543 The Circulation of Bile. The Plessner Company.
- T-545 The Etiology and Treatment of Hay Fever—Hay Fever Antigens. The National Drug Company.
- T-547 —this is where You enter the picture—Detoxol. The Wm. S. Merrell Company.
- T-548 The Hormone, November, 1931, The Harrower Laboratory, Inc.
- T-551 Hypogonadism and Sterility—Gonad Co. (Harrower); Plestrin. The Harrower Laboratory, Inc.
- T-554 Eliminating the Nasal Pathology of Hay Fever. Metapollen Laboratories.
- T-555 Colonic Therapy by H. W. Rothman, M.D. Schellberg Manufacturing Corporation.
- T-556 The Colon: A Factor in Disease by H. W. Rothman, M.D. and O. Boto Schellberg. Schellberg Manufacturing Corporation.
- T-557 "The Newer Knowledge of Ethyl Iodide Therapy" Non-toxic Iodine Inhalation. Local and General Infections of Skin, Nose, Throat, Lungs. Burnham Soluble Iodine Co.
- T-559 "New Born" Necessities. "Nss" Sales Co., Mfrs.
- T-560 This Perfected Potent Remedy For Skin Diseases—Healoderm. Healoderm, Ltd.
- T-561 Improved Guide for the fitting and use of Holland-Rantos Diaphragms, Holland-Rantos Co., Inc.
- T-564 Peptic Ulcer. A symposium of the current literature. The BiSoDol Co.
- T-565 Tricalcol for efficient calcium therapy of the highest resorption and assimilation. The Doho Company.
- T-566 Strontisal. The Doho Company.
- T-567 Vaccineurin-Cures. The Doho Co.
- T-568 Letters in Evidence. Philo Burt Company.
- T-569 The Cause and Cure of Spinal Curvature and Kindred Ailments. Philo-Burt Company.
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- T-571 Detoxification in the Treatment of Intestinal Infections. The Wm. S. Merrell Company.
- T-573 Britesun Prescription Infra-Red Lamps. Britesun, Inc.
- T-574 Gynecological Hints. Denver Chemical Mfg. Co.
- T-575 Yeast Therapy. Standard Brands, Incorporated.
- T-576 Catalog No. 10. Electro Surgical Instrument Co.
- T-577 Bismuth Intravenously. Loeser Laboratory.
- T-578 Knights of Crimson Stream. Loeser Laboratory.
- T-579 A "Charming" New born baby, Necessity. Loofash, Vegetable Sponges. "NSS" Sales Co.
- T-580 Summer Sun for Everyone. Brite-sun, Inc.
- T-581 Endocrine Essentials — Endocrine Diatheses. No. 5 of a series. The Harrower Laboratory, Inc.
- T-582 The Call in the Night — Peralga. Schering & Glatz, Inc.
- T-583 If you could have but ONE Drug—Urotropin. Schering & Glatz, inc.
- T-584 From a Doctor's Notebook—Anusol Suppositories. Schering & Glatz, Inc.
- T-585 Britesun Price List. Britesun, Inc.